# ILLINOIS MINERAL INDUSTRY IN 1985

## and review of preliminary mineral production data for 1986

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ILLINOIS STATE GEOLOGICAL SURVEY

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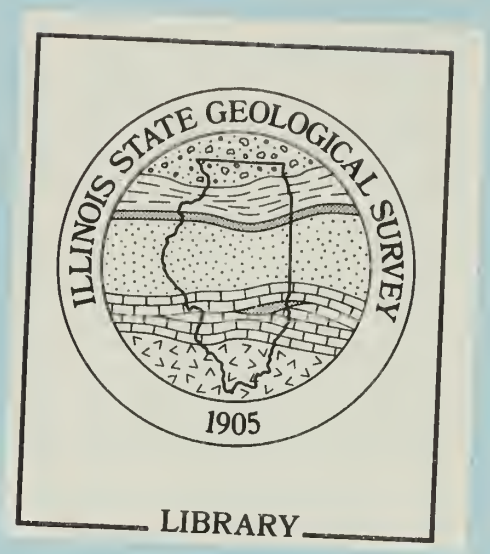


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*Cover photo — View from entrance to an underground limestone mine, Prairie du Rocher, Illinois.*

# ILLINOIS MINERAL INDUSTRY IN 1985

## and review of preliminary mineral production data for 1986

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FIGURES

TABLES

## ABSTRACT

During 1985, the output and value of mineral products extracted, processed, and manufactured in Illinois fell midway between the values recorded for 1983 and 1984.

Production values ($ million)

| Minerals | 1983 | 1984 | 1985 |
|---|---|---|---|
| extracted | 2,865.5 | 3,138.0 | 3,012.1 |
| processed | 577.9 | 577.6 | 540.4 |
| manufactured | 173.5 | 187.9 | 205.3 |
| Total | 3,616.9 | 3,903.6 | 3,757.8 |

Coal continued to lead in value; oil ranked second; stone and sand and gravel ranked third and fourth; clays were fifth.

Nationally, Illinois ranked seventeenth in nonfuel mineral production value. It remained the leading U.S. producer of fluorspar and industrial sand and tripoli, and the major manufacturer of iron-oxide pigments. In peat production, the state ranked fourth; but it dropped to ninth place in output of stone, sand and gravel.

Preliminary data for 1986 indicate that the value of minerals mined was $2,603.4 million, a decrease of 13.6 percent from the $3,012.1 million in 1985.

Detailed production summaries and analyses--including maps, tables, and graphs for all mineral commodities--are based on data available for 1985.


## OVERVIEW

The Illinois mineral industry includes three types of operations:

- extracting minerals from the ground,
- processing crude mineral materials (mined primarily out-of-state) into raw industrial materials,
- manufacturing mineral products such as coke, lime, and cement from mineral materials extracted and processed primarily, but not exclusively, in Illinois (fig. 1).

The total value of products from all operations was $3,757.8 million in 1985, a 3.7 percent decrease from 1984 (table 1). The true value is actually higher. Data are unavailable for some commodities, thus their values cannot be calculated. Table 2 presents production data for each commodity; the quantity and value of each are also shown as percentages of the total national output in 1984 and 1985.

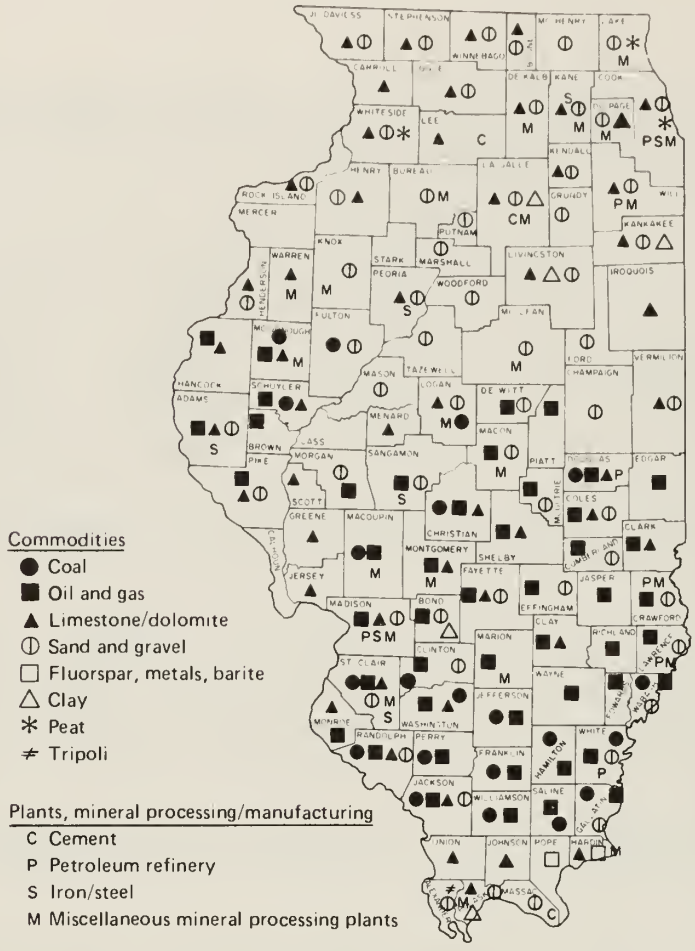


**Figure 1** Illinois mineral production and mineral processing plants.

## Minerals Extracted

The 1985 value of commodities mined in Illinois was $3,012.1 million, a decrease of 4 percent from $3,138.0 million (table 1). Mineral fuels such as coal, crude oil, and natural gas accounted for 89 percent of the 1985 total; industrial and construction materials such as clay, fluorspar, sand and gravel, stone, and tripoli accounted for 10 percent; and the metals such as lead, zinc, and silver, as well as other minerals such as peat, barite, and gemstones, accounted for the remaining 1 percent.

In 1985, extraction of mineral materials was reported by 98 of the 102 counties in Illinois (table 3). Perry County maintained its lead in the production of coal and crude oil, which amounted to 13.4 percent of the state's total. Franklin County, which also produces coal and crude oil, ranked second with 8.6 percent of the state's total.

## Minerals Processed

In 1985, pig iron, natural-gas liquids, expanded perlite, sulfur, ground barite, calcined gypsum, exfoliated vermiculite, iron-oxide pigments, crude iodine, bismuth, columbium, tantalum, and primary and secondary slab zinc were processed at a total value of $540.4 million, a slight decrease from the $577.6 million in 1984 (table 1). Pig iron produced in Cook and Madison Counties accounted for about 89 percent of this total.

On a nationwide basis, Illinois ranked first in the manufacture of iron-oxide pigments, fifth of 31 states in sales of expanded perlite, and fifth of 11 states in shipments of pig iron.

Economic activity increased for some minerals: perlite production rose by 0.5 percent and value by 4.2 percent, and gypsum production jumped 29.3 percent for a growth in value of 4.2 percent. Decreases were recorded for vermiculite--down 16.5 percent in production and 25.2 percent in value, iron-oxide pigments--off only 3.1 percent in production and 3.0 percent in value, pig iron--down 4.0 percent in production and 7.7 percent in value, and sulfur--down 7.2 percent in production and 25.6 percent in value.

## Products Manufactured from Minerals

The mineral-based materials manufactured in Illinois (primarily from minerals mined within the state) were valued at $205.3 million in 1985--a 9.2 percent increase over 1984. These products include cement, coke, clay products, lime, and glass. All products manufactured increased in output and value, with the exception of masonry cement, which decreased 56.7 percent. Portland cement production increased 5.2 percent, lime 6.3 percent, and clay products 18.1 percent. No figures are available for glass or coke values.

## Employment and Wages

According to the Illinois Department of Labor, employment in the state's mineral industries fell slightly from 162,700 workers in 1984 to 162,300 workers in 1985--a 0.2 percent decrease. Mining, quarrying, and oil and gas extraction accounted for 28,600 jobs in 1985, compared to 24,900 jobs in 1984--a 14.9 percent increase. Mineral processing accounted for 89,200 jobs--a 4.3 percent decrease over 1984. Manufactured mineral products provided 44,500 jobs--a 0.2 percent decrease (table 4).

## Transportation

Mineral shipments are a large part of the transportation industry in Illinois. About 70 million tons (54.6 percent) of sand and gravel, stone, and coal were shipped by truck. Crushed stone accounted for about 54 percent of this tonnage, sand and gravel for 35 percent, and coal for 11 percent. About 45 million tons were shipped by rail; coal accounted for about 97 percent of the tonnage. Barge shipments totaled more than 11 million tons; about 79 percent of this tonnage was coal. Other materials, such as pig

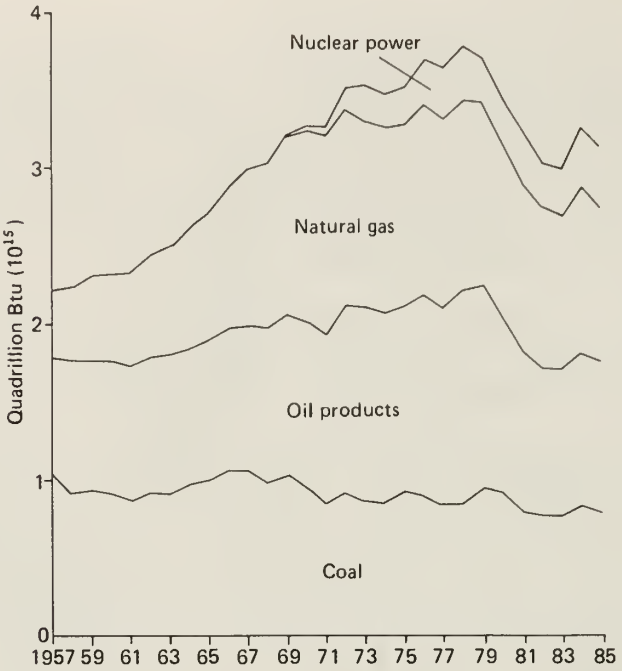


**Figure 2** Energy used in Illinois from 1957-85. Quantities of hydropower and early nuclear power (1960-69) were too small to show.

iron, fluorspar, coke, and clay products, were shipped by railroad, truck, and barge. Crude oil and natural gas were mainly transported by pipeline, and small amounts of coal were moved to mine-mouth electric-generating plants by conveyor belt.

## Mineral and Energy Consumption

As a leading manufacturing state, Illinois consumes large amounts of minerals each year. In 1985, the state's consumption of mineral commodities was about 5.0 percent of the nation's total, approximately proportionate to Illinois' share of the total U.S. population (table 5).

The state's energy consumption in 1985 was estimated as 3.2 quadrillion Btu of energy or 4.3 percent of the total U.S. energy consumption (table 6). Fossil fuels provided about 87 percent of Illinois' energy requirements.

During 1985, total energy usage in Illinois declined 2.9 percent from 1984 (fig. 2). Many factors influence the amount of energy consumed in a state, including size, population, climate, and economic structure. The top ten energy-consuming states accounted for 54 percent of the nation's total consumption; Illinois ranks fourth behind Texas, California and Ohio in consumption of energy. The demand for fuels in Illinois was filled by oil products (30 percent), natural gas (31 percent), coal (25 percent), and nuclear power (13 percent).

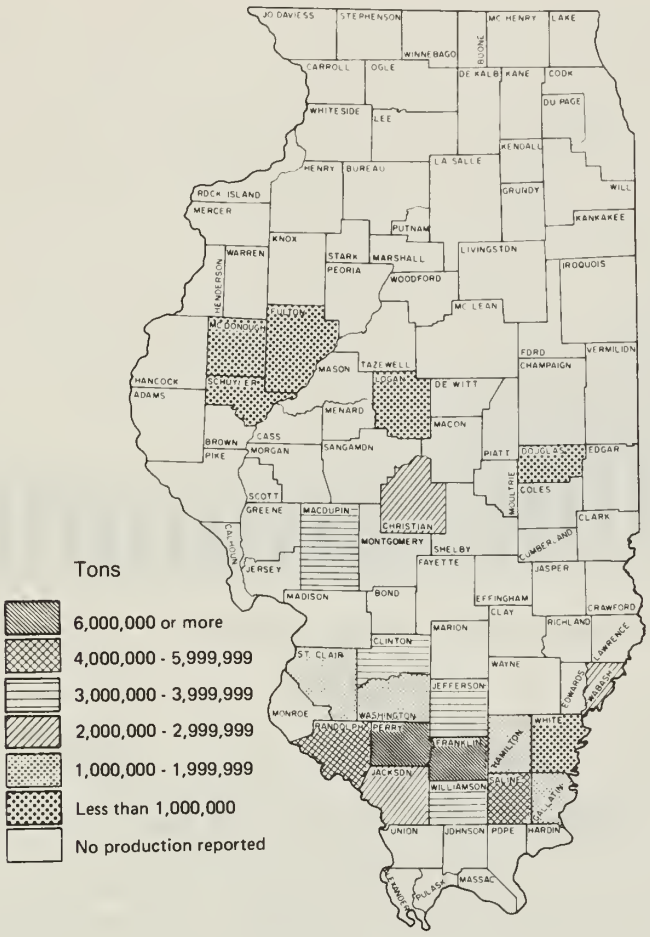


**Figure 3** Illinois coal production, 1985.

## MINERALS EXTRACTED

## FUELS

### Coal

• **Production** In 1985, Illinois maintained fifth place (behind Kentucky, Wyoming, West Virginia, and Pennsylvania) among the nation's coal-producing states. In Illinois, coal production decreased about 7 percent from 1984, as several mines shut down for long periods or operated below capacity levels (table 7). Twenty-one counties reported coal production in 1985 (fig. 3). The four leading counties--Perry, Franklin, Saline, and Randolph--contributed about 48 percent of total production during the year 1985. The state's top producer, Perry County, contributed 22 percent of all coal produced in Illinois; 95 percent of the county's output came from surface mining operations. Franklin County led in underground production--19 percent of all subsurface mining in Illinois. Randolph, Jefferson, and Macoupin Counties each contributed 9 percent and Clinton, 8 percent to underground coal production.

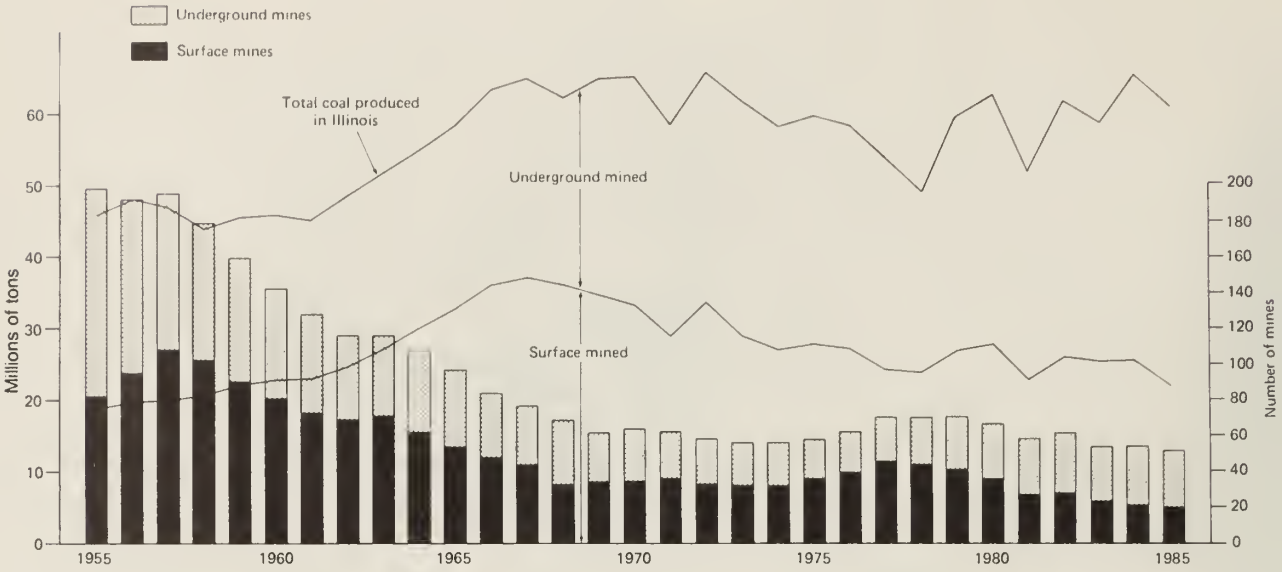


**Figure 4** Trends in coal production in Illinois, 1955-85.

Coal mines operating in Illinois have declined steadily from more than 400 mines in the early 1900s to about 150 in the 1950s. In 1985, only 52 mines remain in operation: 32 are underground mines accounting for 64 percent (38.6 million tons) of the state's total production; 20 are surface mines accounting for about 36 percent (21.8 million tons) (fig. 4). Houston Natural Gas sold its subsidiary, Zeigler Coal Company, to senior management of Zeigler Coal. It included four underground mines and 400 million tons of Illinois reserves; one mine has since been abandoned.

Since 1833 about 5.14 billion tons of coal have been produced from Illinois coal mines (table 8). Surface mines, which began operating in Illinois in 1911, have supplied 1.2 billion tons or 23 percent of this total. The average output per underground mine reached a peak in 1975. It has not changed significantly since 1977, except for the strike-affected years 1978 and 1981. In 1985, output decreased about 6 percent to 1.2 million tons. The average surface-mine output, which had been rising since 1977, decreased by 10 percent to 1.1 million tons in 1985. (table 9).

In 1985, 23 coal mining companies were operating in Illinois (table 10). The top five companies--Peabody, AMAX, Consolidation, Old Ben and Freeman United--represented more than 61 percent of the state's production. For comparison the top five U.S. companies produced 23 percent of the national total.

• **Employment and wages** Employment in Illinois coal mines increased slightly to 14,832 in 1985 from 14,803 in 1984 (table 9). Underground mine employment increased 4.9 percent in 1985. Surface-mine employment, which has been dropping since 1979, fell

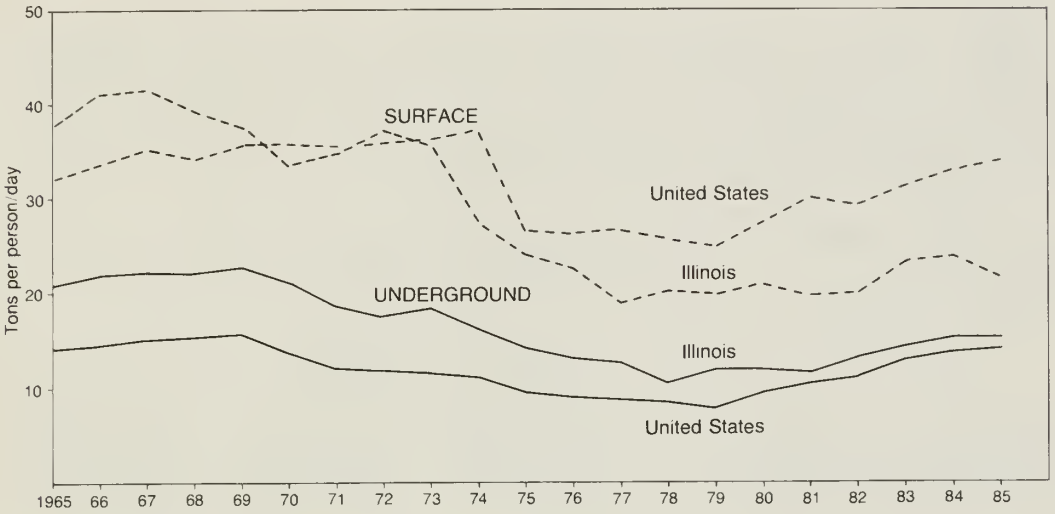


**Figure 5** Trends in coal mine productivity, 1965-85.

another 12.7 percent. Average hourly wages rose, however; bituminous coal miners collected $16.05 per hour in 1985, up from $15.94 in 1984 (table 4); the average number of hours worked weekly went down to 40.2 in 1985 from 43.4 in 1984.

• **Mine productivity** The measure is tons of coal per person-day (tons/person/day), or the average amount of coal mined by one worker during an 8-hour shift. Gains in subsurface production indicate increasing labor productivity, which offset cutbacks in jobs. In 1985, the labor productivity of underground operations increased (0.7 percent) to 15.4 tons from the previous year's 15.3 tons. The peak level was 22.9 tons in 1969. By contrast, labor productivity decreased 9.3 percent from 23.7 to 21.5 tons in surface mines. The peak year was in 1967 with 41.6 tons. (fig. 5).

• **Prices** In 1985, the average price of Illinois coal (f.o.b. mine) was $30.80 per ton, 3 percent higher than the 1984 level of $29.89 (table 7). The average price (f.o.b. mine) of coal mined underground in Illinois was $31.78 per ton, and that of surface-mined coal was $29.14 per ton.

• **Shipments** Illinois coal is used throughout the United States to generate electricity, manufacture coke, and supply the energy for other industrial activities. In 1985, about 89 percent of Illinois coal was sold to electric utility plants, 3 percent to plants manufacturing metallurgical coke, and 8 percent to industrial plants and retail dealers (table 11).

Shipments to electric utilities decreased from 56.2 million tons in 1984 to 52.9 million tons in 1985. About 31 percent of the Illinois coal sold to electric utilities was shipped within the state. Out-of-state shipments fell 6.5 percent from the previous year's level; 35.7 percent of these shipments went to Missouri, 23.2 percent went to Indiana, and 17.1 percent to Georgia and Florida.

About 64 percent of coking coal from Illinois was shipped to coking plants in northwestern Indiana; the remainder was consumed within the state. Of the Illinois coal used for other industrial activities, about 40 percent was consumed within the state, and about 20 percent was shipped to Missouri, 16 percent to Wisconsin, 11 percent to Iowa, and 8 percent to Indiana.

• **Transportation** According to the Illinois Department of Mines and Minerals, coal was shipped from mines to the consumer by rail, barge, or truck.

| | Tonnage | | |
|---|---|---|---|
| | 1983 | 1984 | 1985 |
| Rail | 39,838,997 | 51,145,961 | 44,016,187 |
| Barge or rail/barge | 9,004,751 | 4,579,844 | 8,867,239 |
| Local trade and truck | 8,490,655 | 9,189,465 | 7,700,515 |

| | Tonnage | | |
|---|---|---|---|
| | 1983 | 1984 | 1985 |
| Illinois Central Gulf | 15,019,344 | 17,741,965 | 18,975,717 |
| Missouri-Pacific Lines | 18,708,920 | 20,052,431 | 18,037,940 |
| Norfolk-Southern | 2,807,755 | 3,880,144 | 6,292,837 |
| Chicago Northwestern | 2,227,593 | 2,486,189 | 1,708,963 |
| Burlington Northern | 3,019,057 | 2,226,578 | 1,514,763 |
| Conrail | 2,255,861 | 2,502,344 | -- |
| Others | 3,183,345 | 4,308,622 | 4,086,674 |
| Total | 47,221,875 | 53,198,273 | 50,616,894 |

• **Consumption** In 1984, consumption of coal increased in Illinois for the first time since 1979; but in 1985 consumption decreased about 5 percent (table 12). The amount of coal shipped from Illinois mines to Illinois markets is steadily declining, mainly due to utilities buying low-sulfur coal from other states. In 1975, more than 62 percent of the demand for coal in Illinois was filled within the state. Ten years later that proportion had fallen to 51 percent. Yet Illinois continued to consume more than 3 million tons of coal from Indiana and western Kentucky, which shipped coal conveniently and cheaply to utility plants along the states' borders.

The Illinois government has encouraged the state's industries to burn Illinois high-sulfur coal. A law was passed in 1985 by the state legislature granting tax credit to companies installing pollution-control equipment. Tax credit could also be received for contributions made to state research organizations investigating coal desulfurization technology. At the University of Illinois power plant, state funding supported a jet-bubbling reactor and an electrostatic precipitator to remove sulfur from Illinois coal as it is burned. Also funded by the state of

Illinois were the Allis-Chalmers KILnGAS demonstration of scrubber technology (which daily converts about 600 tons of Illinois coal to clean low-Btu gas) at Illinois Power's East Alton plant, and several projects on fluidized-bed combustion (FBC), which removes sulfur from the coal by mixing and burning coal and limestone together. Companies involved in the FBC projects are the B. F. Goodrich plant at Henry; Midwest Grain Products plant at Pekin; and Anderson Clayton Foods at Jacksonville.

Illinois supplied 52 percent of the coal used by its electric utilities; 36 percent came from western states, 4 percent from western Kentucky, 4 percent from Indiana, and 4 percent from southern West Virginia, Virginia and eastern Kentucky. Coal and coke plants in Illinois met 35 percent of their needs with in-state coal; the remaining 65 percent was met with shipments from mines in West Virginia, Virginia, eastern Kentucky, Ohio, and eastern Pennsylvania. Of the coal required for other uses, 51 percent was supplied by in-state sources, 16 percent by Indiana, 10 percent by West Kentucky, and 20 percent by southern West Virginia, Virginia, eastern Kentucky, Pennsylvania, and Ohio.

## Crude Oil

• **Production** Illinois crude oil production grew 4.7 percent from 28.9 million barrels in 1984 to 30.2 million barrels in 1985 (table 13). This represents a 38.5 percent recovery from the low of 21.8 million barrels hit in 1979. The 1985 production was valued at $813.1 million, with an average unit value of $26.90 per barrel. The secondary production method of waterflooding accounted for 12.8 million barrels or 42.4 percent of the state total; and pressure maintenance operations produced 185,400 barrels or 0.61 percent of the state total.

Illinois ranked twelfth of 31 oil-producing states. In 1985, 46 counties produced crude oil; each of 6 counties produced more than 2 million barrels, contributing 51 percent of the state's total oil production.

| County | 1984 (%) | 1985 (%) | County | 1984 (%) | 1985 (%) |
|---|---|---|---|---|---|
| Wayne | 10.6 | 9.1 | White | 11.5 | 8.8 |
| Marion | 7.8 | 9.1 | Crawford | 6.5 | 7.4 |
| Lawrence | 9.6 | 9.1 | Clay | 4.8 | 6.9 |

The number of oil fields producing more than 200,000 barrels increased from 17 in 1984 to 18 in 1985. The combined production of these 18 fields amounted to about four-fifths of the state's total in 1985 (table 14). But about two thirds (63 percent) of the state's total actually came from the five largest fields -- Southeastern Illinois, Clay City Consolidated, Salem Consolidated, Louden, and New Harmony Consolidated. Each produced more than one million barrels during 1985.

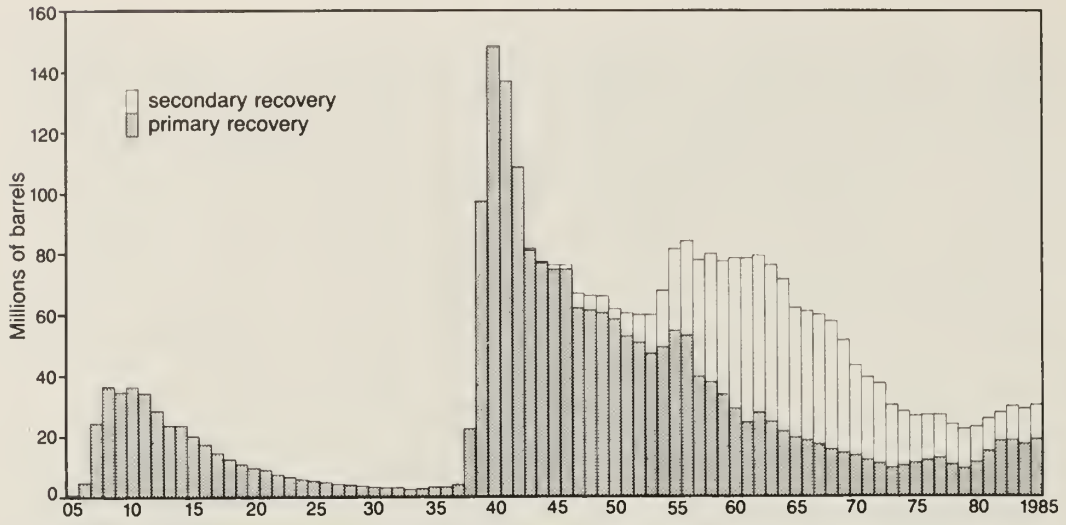


**Figure 6** Annual crude oil production, 1905-85.

Crude oil production reached a peak of 147.6 million barrels in 1940 (fig. 6). From that level oil production by primary recovery methods declined steadily until 1973, although some years showed small gains. Introduction of the hydraulic rock fracturing method in 1954 and the increased use of waterflooding reversed the decline. Production fell steadily after 1962 as reserves were depleted. By December 1985, reserves were 136 million barrels, an 81 percent drop from 700 million barrels in January 1956.

• **Refineries** According to the U.S. Department of Energy, seven refineries were operating in Illinois as of January 1, 1986. Total capacity was 896,600 barrels per day, down 6.7 percent from January 1, 1985.

• **Consumption** Consumption of major petroleum products in Illinois continued to decline in 1985, showing a slight decrease of 1 percent. Since 1982, gasoline consumption has fallen 6.5 percent, although it was higher in 1985 than in 1984; kerosene has gained 162 percent; and liquefied gases (LPG) have grown 19 percent (table 15).

## Natural Gas

• **Production** In 1985, the state's production of natural gas fell back 13.5 percent after a strong advance of 48.5 percent between 1983 and 1984 (table 16). The reduction was associated with competitive natural-gas pricing and decreased levels of economic activity. Coles County took the lead from Pike County as top producer in 1985; Saline County held steady in third place (table 17). Three other counties accounted for approximately 60 percent of Illinois' total gas production in 1985. A new field opened up in each of these counties: Stolletown in Clinton County, Prentice Pool in Morgan County, and Main Consolidated in Crawford County.

The average wellhead value of Illinois gas decreased slightly in 1985 to $2.77 from $2.78 per thousand cubic feet in 1984.

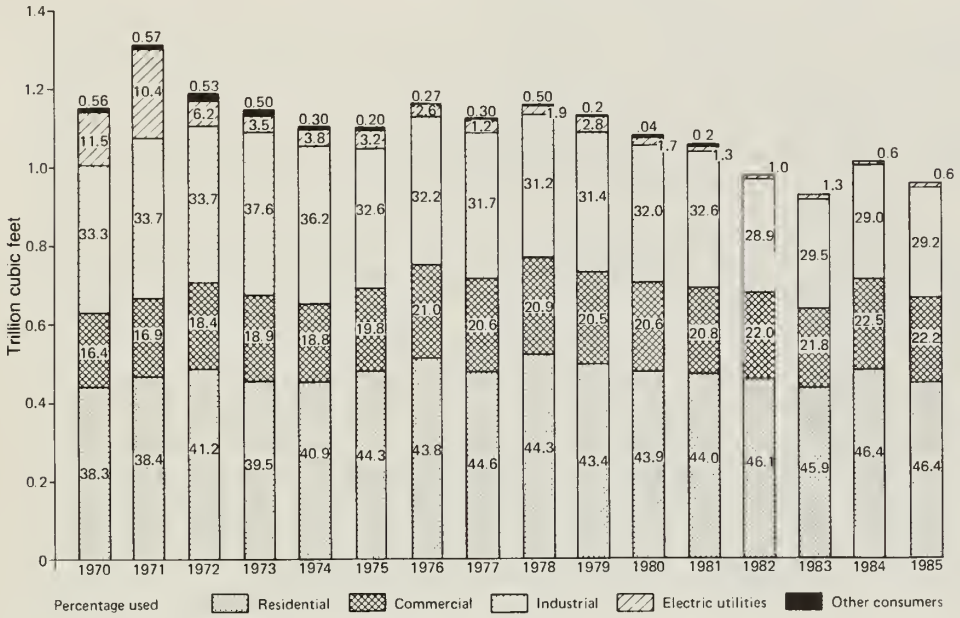


**Figure 7** Consumption of natural gas, 1970-85.

• **Consumption** Natural-gas consumption in Illinois dropped 6.8 percent in 1985 (table 18). The average value of natural gas consumed in Illinois rose 3.4 percent from $5.03 per Mcf in 1984 to $5.20 per Mcf in 1985. Figure 7 shows the natural gas consumption trends in Illinois since 1970.

## INDUSTRIAL AND CONSTRUCTION MATERIALS

### Clays

• **Production** Common clay and absorbent clay (fuller's earth) are mined in Illinois. In 1985, clay production (excluding fuller's earth) increased slightly to 265,467 tons from 253,381 tons in 1984 (fig. 8). Refractory or fire clay production has not been reported since 1982 when A. P. Green Refractories Company, a subsidiary of U. S. Gypsum Company, began importing fire clay from an out-of-state source. U. S. Gypsum Company has announced that it signed a contract to sell A. P. Green Refractories to Adience Equities, Inc. Special refractory products for the steel and cement industries were produced by A. P. Green. Illinois clay is used in manufacturing cement, face brick, drain tile and sewer pipe.

Since 1979, data on refractory clay have been withheld for confidentiality. The last Illinois mine operating in Grundy County closed in 1983, and no refactory clay has been produced since.

The average unit value of common clay decreased from $3.71 per ton in 1984 to $3.30 in 1985. The total value was $876,123 in 1985 compared to $939,966 in 1984. Only five counties mined clay in Illinois in 1985; La Salle County led production of common clay

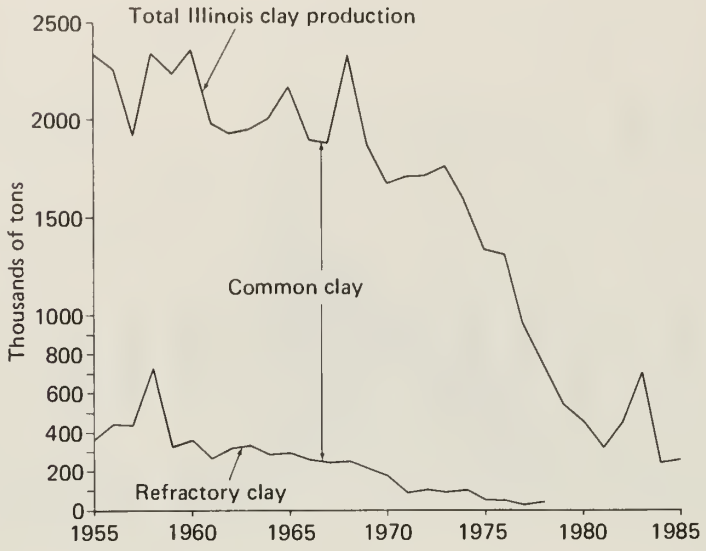


**Figure 8** Trends in clay production, 1955-85.

with Livingston County running a close second. McDonough County's Western Stoneware plant and clay mine closed, and no production was reported in 1985.

Absorbent clay (fuller's earth) was produced by two companies in Pulaski County. Production was about 10 percent higher in 1985 than in 1984.

• **Consumption and uses** Bricks, sewer pipes, drain tiles, wall tiles, dinnerware, lightweight aggregates, and cement are manufactured from common clays and shales mined in Illinois. Building bricks, which remained the primary product, accounted for 44 percent of the Illinois clay market in 1984. Overall, clay consumption increased about 5 percent in 1985.

The use of common clay for the production of portland cement, structural concrete, concrete blocks, and highway surfacing expanded to 40 percent of the state's total, compared to 38 percent in 1984. Sewer pipe and drain tile manufacturing declined to 16 percent of the state's total in 1985 from 17 percent in 1984.

Absorbent clay from Pulaski County is mainly used in the production of animal litter and oil and grease absorbents. Output increased about 10 percent in 1985 compared to 1984.

## Fluorspar

• **Production and shipments** Shipments of finished fluorspar from domestic mining operations sank to their lowest level in 50 years in 1983, recovered somewhat to an estimated 72,000 tons in 1984, then decreased to an estimated 66,000 tons in 1985.

Illinois continued to be the nation's leading producer of fluorspar, contributing more than 90 percent of the U.S. shipments. In 1985, the state's production decreased 11 percent from that of 1984. The United States depends on foreign sources for more than 90 percent of its fluorspar requirements. (Individual company data are confidential and cannot be released.)

Ozark-Mahoning Company, the nation's leading fluorspar producer, operated three mines in Pope and Hardin Counties. The Hastie Trucking and Mining Company, near Cave-In-Rock in Hardin County, mined very little ore but shipped fluorspar from its stockpile to consumers. The Inverness Mining Company, located near Cave-In-Rock, last reported production in 1982 then closed its mining operation permanently. Inverness dried imported fluorspar at its facilities for sale primarily to consumers in the ceramic industry. Ozark-Mahoning cut its exploration program to one drill and its operation to one shift per day at its three mines, resulting in the layoff of employees. The reasons given by the company were increasing costs and market pressure from low-cost foreign imports.

• **Consumption** Reported consumption of fluorspar in the United States decreased 25 percent from 752,581 tons in 1984 to 567,623 tons in 1985 because of large decreases in the use of fluorspar for hydrofluoric acid (HF) and for refining of iron and steel. The HF industry accounted for 72 percent of the reported consumption and the steel industry for 25 percent. The apparent U.S. consumption (production + imports - exports ± change in stocks) declined from 742,431 tons in 1984 to 682,965 tons in 1985. Consumption of fluorspar in Illinois dropped 46 percent from 10,747 tons in 1984 to 5,827 tons in 1985 mainly due to a sharp decline in fluorspar consumption per ton of steel produced. Illinois accounted for about 1.4 percent of the nation's fluorspar consumption in 1984 and 1.0 percent in 1985. Fluorspar is used as a flux in raw steel production, flux consumption was up about 20 percent in 1984, but fell about 24 percent in 1985. Fluorspar is also used to produce hydrofluoric acid, fluorocarbon gases and plastics, sodium and aluminum fluorides, refining aluminum, and other miscellaneous chemicals. Allied Corporation started a commercial-scale plant at Metropolis to produce fluorinated carbon products.

## Sand and Gravel

The U.S. Bureau of Mines, which implemented new procedures in 1981, surveys sand and gravel producers only in even-numbered years. For odd-numbered years, only estimates will be published.

• **Production** Sand and gravel deposits are widely distributed in Illinois. Glacial deposits, chiefly valley trains and outwash plains, are the principal sources of construction sand and gravel. Production in 1985 was estimated at 26.6 million tons, an increase of 2 percent from 1984. In 1985 the combined value of these mineral materials was estimated at $77.0 million with an average unit value of $2.89 per ton.

• **Transportation** Due to its low unit price, most construction sand and gravel is shipped no farther than about 50 miles from the pit. Most sand and gravel was shipped by truck in 1985 with small amounts barged or used at the pit.

• **Consumption and uses** Production reported is actually material "sold or used" as stockpiled production is not reported until it is sold or consumed. Illinois sand and gravel is primarily used as construction aggregate. Total consumption of sand and gravel in 1985 was estimated to have increased 2.4 percent over 1984; total value increased about 6.2 percent.

### Industrial Sand

• **Production** Illinois ranked first in the nation in 1985, producing 4.06 million tons of industrial sand worth $56.9 million. Six companies operated eight pits in La Salle, Mason, and Ogle Counties. The unit value increased from $12.73 in 1984 to $14.01 in 1985. In 1985, Ottawa Silica was the fourth largest producer of industrial sand with operations in six states, including Illinois.

• **Transportation** About 79 percent of the industrial sand was shipped by truck; the remainder by rail and barge.

• **Consumption and uses** Industrial silica sand was produced in two forms: ground and unground. Unground sand was used primarily for glass manufacturing. Other uses include molding, sand blasting, grinding and polishing, railroad traction sand, filtration sand, and propping sand for hydrofracturing of oil wells. Ground sand was used in chemicals, abrasives, enamels, pottery, porcelain, tile, and various fillers. Silica sand consumption decreased about 1.0 percent between 1982 and 1984.

### Stone

The U.S. Bureau of Mines canvasses data on stone production every odd-numbered year. Only estimates for 1984 are included in this report.

• **Production** Total Illinois stone production decreased from an estimated 48.5 million tons in 1984 to 41.0 million tons in 1985 (table 19). The total value was $164.1 million in 1985, compared to $191.6 million--about a 14-percent loss. Illinois dropped to ninth in the nation in total production. Every state reported crushed stone production with the exception of Delaware.

In 1985, 52 counties reported stone production (fig. 9) from 89 companies working 160 quarries (compared to 93 companies operating 169 quarries in 1983). The seven largest quarries (900,000 tons per year) accounted for 41 percent of production in 1985, while the 48 smallest producers (25,000 tons per year) accounted for only 1 percent of production (table 20). Cook County was the most productive county; and Vulcan Materials Company, operating in six counties in Illinois, was the largest producer of crushed stone in the nation.

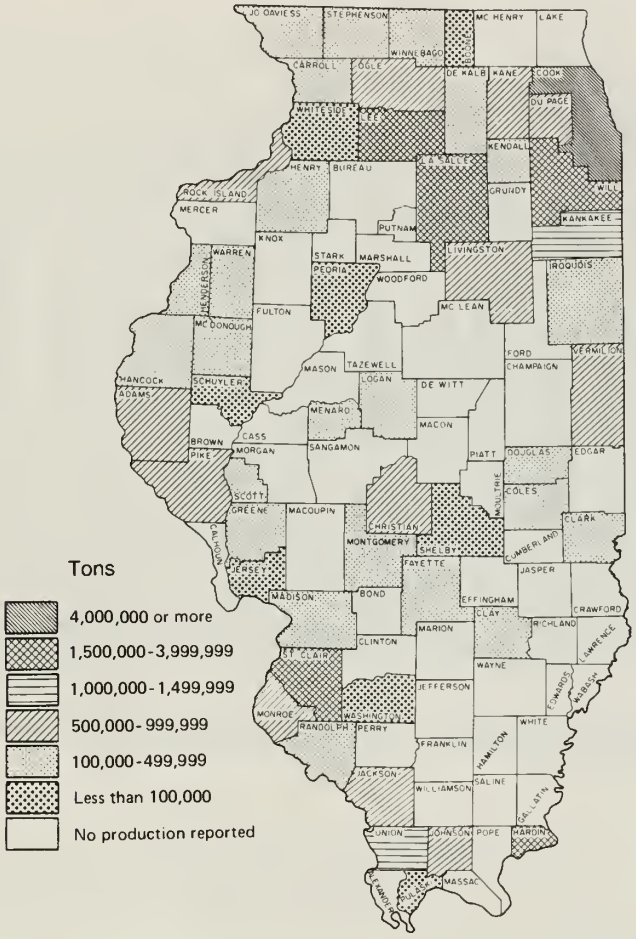


**Figure 9** Stone production by county, 1985

• **Shipments** About 91 percent of Illinois stone is shipped by truck; the remainder by rail and barge. Stone, a bulk commodity, is used primarily in the areas near the quarry; most stone is shipped by truck. Illinois waterways are put to use by some producers along the river.

• **Consumption and uses** More than half of the stone is used as construction aggregate, principally as road-base stone. This amount is probably higher, however, because some crushed-stone producers do not report a breakdown by end use. Their total production is included in table 21 as "other uses". For this reason, this category shows a big increase. Chemical purposes and other uses accounted for about 37 percent and agriculture for 8 percent in 1985 (fig. 10). The pattern of usage has not changed much, although consumption decreased about 4 percent from 1983 to 1985.

The dimension stone mined in Illinois is used as veneer in house construction, rubble, and flagging.

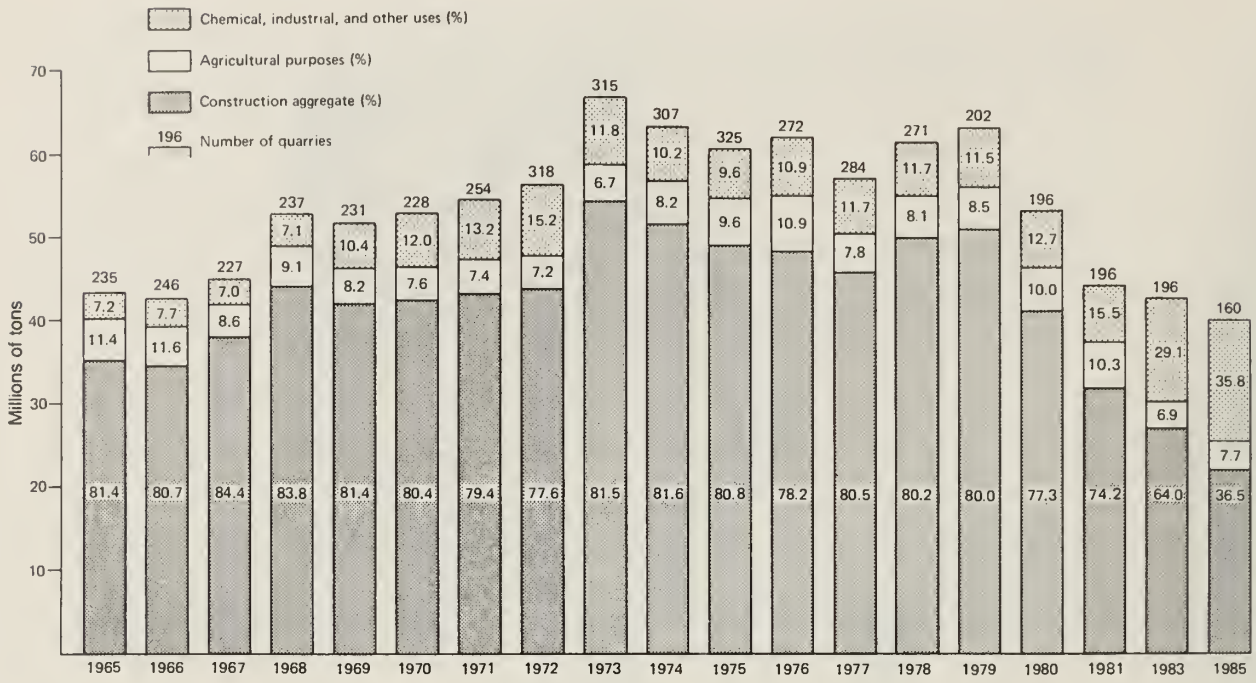


**Figure 10** Uses of crushed and broken stone produced in Illinois: 1965-81, 1983, 1985. (Since 1981, only odd year data collected.)

## Tripoli (Amorphous Silica)

• **Production** The term "tripoli" refers to several fine-grained, porous, siliceous materials. Tripoli deposits in Alexander County occur in the almost horizontal strata of the Devonian Clear Creek Formation and the Grassy Knob Formation below it. Commercial-grade deposits of tripoli are up to 40 feet thick. Selective mining bypasses large areas of chert and iron-stained material that define the upper and lower limits of commercial-grade tripoli. Two of the nation's leading tripoli producers are located in Alexander County in southern Illinois--Illinois Minerals Company and Tammsco Inc.

Illinois has been the nation's largest producer of siliceous materials, accounting for more than half the total U.S. production. Although actual production figures are confidential, Illinois crude tripoli production edged higher in 1985; value increased by 32 percent.

• **Consumption and uses** The amorphous silica processed in Illinois was used for fillers in paint, plastic, and rubber products, and for abrasives in buffing and polishing compounds, soap, and toothpaste. Some iron-stained tripoli is now being used in the manufacture of portland cement. Processed material sales grew about 6 percent over 1984, but the value dropped 6.3 percent.

## METALS

### Zinc, Lead, Silver, and Copper

• **Production** Zinc, lead, silver, and copper were recovered from fluorspar ore mined in Hardin and Pope Counties by Ozark-Mahoning Company. Copper was recovered in 1985 from sulfide concentrate. In 1985, declines were registered in the production of all commodities except silver, and in the value per ton of all commodities.

## OTHER MINERALS

### Peat

Although peat is classified as a fuel by the U.S. Bureau of Mines, all commercial sales of peat in the United States (excluding imports) are for agricultural and horticultural purposes, specifically for soil improvement. Three major kinds of peat--reed-sedge, moss, and peat humus--were produced in Illinois by five companies located in Cook, Lake, and Whiteside Counties. Illinois ranked third after Florida and Michigan among the 21 peat-producing states. Reversing the previous year's trend, production strengthened slightly during 1985 and total value grew 9 percent. The value per ton was up 7.6 percent from 1984.

### Gemstones

Limited to specimen-grade fluorite collected in the fluorspar mines in Illinois, gemstones contributed little to the total value of mineral production. The estimated value was only about $15,000 in 1985.

### Primary Barite

An accessory mineral in fluorspar ore, barite has been recovered as a byproduct by the fluorspar industry of Hardin County since 1974. Ozark-Mahoning, the only producer, recorded a 48 percent drop in production in 1985, compared to a 52-percent gain in 1984. Value fell 5 percent per ton. Barite is used primarily as a weighting agent in drilling muds. Other uses include manufacture of paints, glass, rubber, and barium chemicals.

## MINERALS PROCESSED

Minerals produced mainly in other states and in foreign countries but processed in Illinois include ground barite, columbium and tantalum, calcined gypsum, crude iodine, iron-oxide pigments, natural-gas liquids, expanded perlite, pig iron, sulfur, exfoliated vermiculite, primary slab zinc, and secondary slab zinc.

### Ground Barite

Only two Illinois companies process ground barite: Mineral Pigments and Metals Division of Pfizer, Incorporated in St. Clair County and Ozark-Mahoning Company in Hardin County. This ground barite is used almost exclusively as a filler or an extender in paints.

### Columbium and Tantalum

Fansteel Incorporated in Cook County reported processing of columbium-tantalum concentrate imported from foreign countries. In 1985 Fansteel also produced tantalum metal. Columbium and tantalum are used primarily to produce various steel alloys. Production figures are not available.

### Calcined Gypsum

Calcined gypsum, used primarily for prefabricated housing materials such as wallboard, was processed by the National Gypsum Company in Lake County. The production of calcined gypsum increased 29 percent over 1984, because of the continued demand for wallboard in construction.

### Crude Iodine

Crude iodine was processed into inorganic compounds for commercial use at three Illinois plants: Abbott Laboratories in Lake County, Economics Laboratory in Will County, and West Argo-Chemicals in Lake County. Although crude iodine is used primarily as a catalyst or stabilizer, it also is added in animal feed, inks, colorants, pharmaceuticals, and sanitary and industrial disinfectants.

### Iron-Oxide Pigments

In 1985, Illinois ranked first in the nation in production of iron-oxide pigments, although processing of pigments continued to fall from 29,475 tons in 1984 to 28,573 tons. Total value was $24.2 million.

The finished pigments were produced from iron ore imported from other states by the Prince Manufacturing Company in Adams County; the George B. Smith Chemical Works in Kane County; Pfizer, Incorporated in St. Clair County; and Solomon Grinding Service in Sangamon County.

### Natural-Gas Liquids

Natural-gas liquids include ethane, propane, isobutane, unsplit butane, and a combination of gasoline and liquefied petroleum gas (LPG). Natural-gas liquids were processed in Douglas County by the U.S. Industrial Chemical Company, a division of National Distillers and Chemical Corporation. The U.S. Department of Energy reports that Illinois processed 542 million cubic feet produced in-state and 152,877 million cubic feet from out-of-state. The total liquids extracted in Illinois were 7.7 million barrels.

### Expanded Perlite

Crude perlite mined outside the state was processed by three companies: Silbrico Corporation in Cook County, Strong-Lite Products Corporation of Illinois in De Kalb County, and Johns-Manville Sales Corporation in Will County. In 1985, Illinois ranked fifth out of 31 states in sales of expanded perlite,

following Mississippi, Pennsylvania, California, and Georgia. Production in 1985 increased 3.0 percent, while sales of expanded perlite increased less than 1 percent. Value per ton increased about 4 percent in 1985.

Expanded perlite is used primarily as roof insulation board and for horticultural purposes. Other uses include aggregate for concrete and plaster, insulation, and filters.

### Pig Iron and Raw Steel

Output of pig iron in Illinois pulled back 4 percent to 2.9 million tons after advancing to 3.0 million tons in 1984. The total value of the pig-iron production also fell from $521 million in 1984 to $481 million in 1985, and the average value per ton decreased 3.9 percent. Consumption of pig iron was on the rise in Illinois--up to 2.7 million tons in 1985, compared to 1.9 million tons in 1984.

Pig-iron shipments declined from 3.0 million tons to 1984 to 2.9 million tons in 1985. Illinois ranked fifth of 11 states shipping pig iron in 1985.

According to the American Iron and Steel Institute in Washington, D.C., production of raw steel in Illinois was 6.48 million tons or 7.3 percent of the U.S. output in 1985--down less than a 0.4 percent from the 6.5 million tons in 1984. The industry continued to streamline operations; some companies cut staff in an effort to cut costs and stay competitive.

### Slag (Iron and Steel)

Illinois ranked tenth nationally of 26 states in the sales of processed iron and steel slag. Seven companies processed slag from iron and steel furnaces; five companies processed steel slag; and two companies produced air-cooled blast furnace slag. Primary use of slag was for construction aggregate. Sales declined 3 percent and value 24 percent in 1985 because of the depressed state of the construction industry.

### Recovered Elemental Sulfur

Five companies in four counties, Crawford, Lawrence, Madison, and Will, recovered elemental sulfur as a byproduct of oil refinery operations. The amount recovered increased from 182,125 tons in 1984 to 193,142 tons in 1985. Illinois ranked seventh in the nation selling 193,893 tons of sulfur valued at $19.9 million in 1985.

### Exfoliated Vermiculite

Two companies in De Kalb and Du Page Counties process exfoliated vermiculite from crude vermiculite mined outside the state. International Vermiculite, which reported from Macoupin County in 1984, did not report in 1985. Illinois ranked seventh nationally of 27 states processing vermiculite. The state's output dropped about 16 percent in 1985, and the value fell 25 percent.

In Illinois, exfoliated vermiculite is used in the following products:

| | 1984(%) | 1985(%) |
|---|---|---|
| Loose-fill insulation | 25.4 | 26.7 |
| Block insulation | 9.1 | 14.7 |
| Concrete aggregate | 11.7 | 13.3 |
| Horticulture and agriculture | 9.0 | 16.7 |
| Plaster aggregates, steel mills, and fireproofing | 44.8 | 28.6 |

### Primary Slab Zinc

Amax Zinc Company in St. Clair County processed special high-grade zinc from domestic and foreign ores and concentrates. Illinois, Texas, Idaho, Tennessee, Oklahoma, and Pennsylvania have been accounting for the smelter production of primary slab zinc; however, the Texas plant closed indefinitely in April 1985 and the Idaho plant closed permanently.

### Secondary Slab Zinc

During 1985, secondary slab zinc was processed at Illinois Smelting and Refining Company in Cook County. The New Jersey Zinc Company in Bureau County no longer produces secondary slab zinc, but processes zinc dust. Production data for individual states are not available.

## PRODUCTS MANUFACTURED FROM MINERALS

Cement, clay products, coke, glass, and lime were manufactured in 1985 from crude mineral materials mined both in and out of state.

### Cement

• **Production** Raw materials used to manufacture cement include cement rock (an argillaceous limestone containing lime, silica, alumina, and magnesia), limestone, clay, shale, sand, fly ash, slag, gypsum, and tripoli.

In 1985, four companies produced cement in Illinois: Illinois Cement Company, a subsidiary of Centex Corporation, and Lone Star Industries in La Salle County; Dixon-Marquette Cement, a subsidiary of Prairie Materials Sales in Lee County; and Missouri Portland Cement Company, a division of H. K. Porter Company in Massac County. All four companies produced portland cement, and two companies, Lone Star and Dixon-Marquertte, also produced masonry cement.

Portland cement production advanced 5.2 percent in 1985, while value decreased from $41.38 per ton in 1984 to $41.04 per ton in 1985 (table 22). Prepared masonry production dropped 36.2 percent, while value per ton increased 1.8 percent. Illinois ranked tenth nationally in shipments of portland cement and twenty-fourth in shipments of masonry cement in 1985.

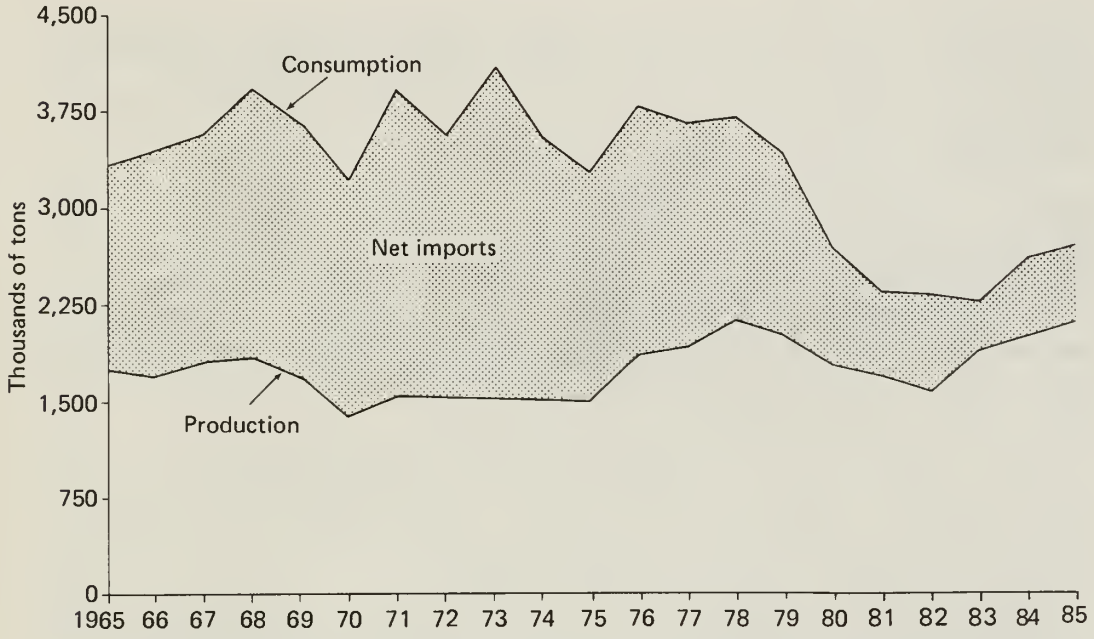


**Figure 11** Production and consumption of finished portland cement in Illinois, 1965-85.

Nearly all the cement was delivered by truck in bulk form; a small amount was shipped by rail and barge. More than three-fourths of the portland cement sales were to ready-mix companies.

• **Consumption** Illinois consumed about 2.7 million tons of portland cement and 73,000 tons of masonry cement in 1985 (fig. 11). These figures show a 4 percent growth in the use of portland cement and a 1.4 percent gain for masonry cement, indicating an upturn in construction activity. In the United States, the end-use pattern did not change significantly. Ready-mix concrete producers were the primary consumers, accounting for 70 percent of the total quantity shipped by domestic producers. Twelve percent was used by manufacturers of concrete products, and the remainder was purchased by government agencies and others for highway construction and related purposes.

## Clay Products

To obtain accurate, current information about the amount and value of clay products manufactured in Illinois, the Illinois State Geological Survey sends questionnaires every year to all producers in the state. Four companies reported mining clay in Illinois in 1984. One plant closed, and a few did not respond.

Clay products were valued at $71.4 million in 1985. Whiteware and pottery increased from $30.9 million in 1984 to $41.7 million in 1985. Structural clay products such as common and face brick, drain tile, and sewer pipes increased from $10.5 million in 1984 to $16.3 million in 1985. Refractories and other products declined from $19.1 million in 1984 to $13.3 million in 1985.

The Western Stoneware plant and clay mine was given to the city of Monmouth by Thrall Enterprises, who decided to close the plant in early 1985. City officials hope to renovate the plant and continue the operation, saving the jobs of the 50 persons employed.

### Coke

• **Production** After expanding 21 percent to 1.6 million tons in 1984, coke drew back 6.1 percent to 1.5 million tons in 1985. Other declines in 1985 included the amount of coal carbonized at coke plants--down 5.6 percent to 1.4 million tons from 2.5 million tons in 1984; the amount of coal stockpiled--down 11 percent; and U.S. breeze production--down 12.2 percent.

The U.S. Department of Energy no longer provides data on byproducts on a state-by-state basis. The average U.S. price of coke distributed from coke plants was $103.26 f.o.b. per ton; breeze was $29.96 f.o.b. per ton in 1985.

• **Consumption and uses** Coke is used for pig iron production, foundry and other industrial purposes, and residential heating. Coke breeze was used for fuel in steam and agglomerating plants. However, data on coke breeze on a state basis are no longer available.

### Glass

Glass and/or fiberglass was manufactured in Du Page, Lake, La Salle, Logan, McLean, Macon, Madison, Marion, Montgomery, St. Clair, and Will Counties. Production data are not available.

### Lime

• **Production** In lime production for 1985, Illinois ranked seventh of 36 states. Data for lime cannot be disclosed; however, production increased 6.3 percent and value grew 7.2 percent. Three plants in Cook County supplied the state's entire output: two plants owned by Marblehead Company, a division of General Dynamics, produced quicklime and hydrated lime; and Vulcan Materials Company produced quicklime.

Marblehead's South Chicago plant ranked seventh in the United States in output. The company is the nation's second largest producer with plants in Illinois, Indiana, Michigan, Pennsylvania, and Utah. Dravo Lime Company with plants in four states was the leading producer in 1985.

• **Consumption and uses** With the consumption of 552,000 tons of quicklime and 112,000 tons of hydrated lime in 1985, Illinois was again one of the nation's leading hydrate consumers (fig. 12). The main chemical and industrial use of lime is in the production of basic oxygen furnace (BOF) steel. Of the lime used to make BOF steel, 30 percent was supplied by Illinois and Indiana in 1985.

## PRELIMINARY PRODUCTION DATA: 1986

### MINERALS EXTRACTED

Data for 1986 indicate that the total value of minerals mined was about $2.6 billion--a 13.6 percent decrease from the 1985 level (table 23). Coal, crude oil, and natural gas continued to be the leading mineral commodities in Illinois; total production value of these fuels was estimated to be $2.2 billion. An estimate of $354 million was provided by the U.S. Bureau of Mines for nonfuel minerals, which include stone, sand and gravel, clays, fluorspar, tripoli, lead, zinc, silver, peat, gemstones, and barite.

Most commodities increased in value, except lead, natural gas, and crude oil, which dropped about 51 percent.

### Fuels

Fossil fuels were valued at about $2.2 billion: coal contributed about 82 percent; crude oil and a small amount of natural gas contributed the remaining 18 percent. The 1986 value of fossil fuel production is expected to be down about 16 percent from the previous year.

- **Coal** In 1986, the value of coal fell to an estimated $29.50 per ton from $30.80 per ton in 1985. An increase in the amount of extracted coal coupled with a lower value per ton resulted in a slight decrease of 0.8 percent in total production value. Illinois coal production rose in 1986 from 60.5 million tons to

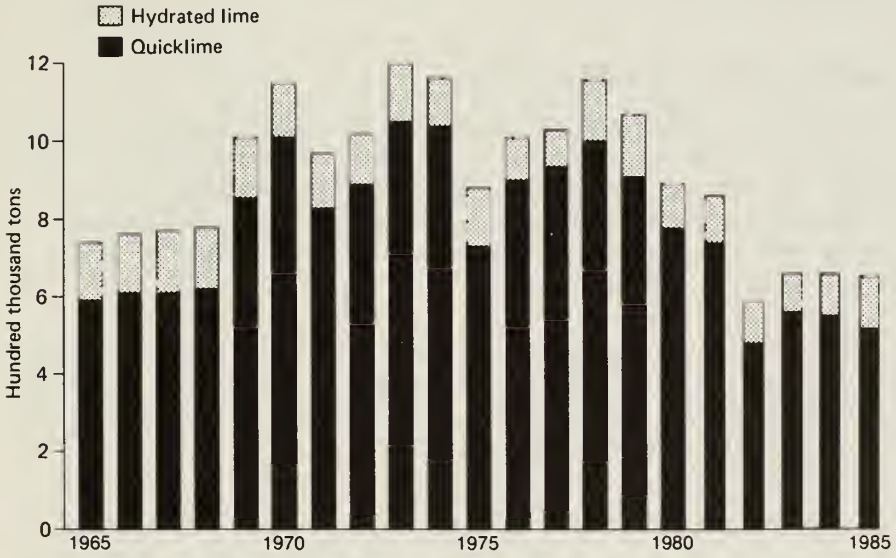


**Figure 12** Trends in consumption of quicklime and hydrated lime, 1965-85.

62.6 million tons, a 3.5 percent increase. The rise in production was due to the increase in consumption by electric utilities and coke and gas plants during for the first 9 months of the year (table 24). During the same period, shipments of coal to Tennessee, Indiana, Florida and other states, as well as exports to other countries also increased (table 25). Despite these gains, coal exploration reached a new low as the total number of mines operating in Illinois declined from 52 in December 1985 to 51 at the end of 1986.

The state is continuing to support research on using Illinois' high-sulfur coal and has added the Archer Daniels Midland Company of Decatur to the FBC projects.

• **Crude Oil and Natural Gas** Crude-oil production in 1986 is estimated at 27.7 million barrels--an 8.2 percent decrease. The 1986 production is considered to be worth about $399.5 million, based on an estimated value of $14.40 per barrel. Oil prices per barrel have declined from 1985 to 1986 by about 51 percent (table 23). The price collapse led to major reductions in exploration and production expenditures, industry-wide restructuring, and massive layoffs.

Independent oil producers in Illinois have shut in many stripper wells found to be too costly to operate. Low prices do not justify the risk taken in exploration.

From 1985 to 1986, natural-gas production and value showed losses of about 8 and 23 percent, respectively. The unit value decreased 7 percent to $2.57 per Mcf in 1986. Production from most fields generally decreased. One new field was reported, Rushville Field in Schuyler County. Two fields were abandoned, one in Pike County and one in Williamson County.

## Industrial and Construction Materials

Preliminary data for 1986 show an increase in total value for industrial and construction materials of about 6.4 percent. Gains were registered for every commodity, especially for fluorspar, which increased by about 19 percent. Stone and sand and gravel continued to be the strongest contributors to the value of the state's nonfuel mineral production.

U.S. Borax and Chemical Corporation of Los Angeles acquired Ottawa Silica Company in La Salle County. Dravo Basic Materials Company bought the facility formerly owned by Missouri Portland Cement at Cave-in-Rock on the Ohio River in southern Illinois.

## Metals and Other Minerals

Lead and zinc were recovered as byproducts of Illinois fluorspar production in 1986. The total value of extracted metals rose about 86 percent from the 1985 level when lead, zinc, silver, barite and copper were all reported; however, no silver, barite or copper were reported in 1986.

## MINERALS PROCESSED

Preliminary data for 1986 are not yet available for most of the minerals processed in Illinois. The American Iron and Steel Institute reported that Illinois raw steel production fell for the second year from 6,479,000 net tons in 1985 to an estimated 6,414,000 net tons in 1986. The largest drop occurred in 1982 when the state slipped to 5.1 million tons from 9.2 million tons in 1981.

Three Rivers Steel Corporation of Evansville, Indiana, announced it will open a new mini-mill in Decatur to produce hot-rolled steel for auto frames and related products. Several companies are modernizing and updating their plants.

## PRODUCTS MANUFACTURED FROM MINERALS

Preliminary figures for 1986 show portland cement production increasing to 2.5 million tons from 2.1 million tons in 1985--a 19 percent increase. The 1986 value was $106.1 million--a 23 percent increase over 1985. Masonry cement fell 9 percent in output but was estimated to have increased about 2 percent in value.

TABLE 1. Illinois minerals extracted, processed, and manufactured into products, 1983-85: production and value[a]

| Minerals | Unit | 1983 Quantity | 1983 Value ($1000) | 1983 Average unit value ($) | 1984 Quantity | 1984 Value ($1000) | 1984 Average unit value ($) | 1985 Quantity | 1985 Value ($1000) | 1985 Average unit value ($) |
|---|---|---|---|---|---|---|---|---|---|---|
| EXTRACTED | | | | | | | | | | |
| FUELS | | | | | | | | | | |
| Coal | thousand tons | 58,374 | $1,714,432 | $ 29.37 | 65,289 | $1,951,494 | $ 29.89 | 60,477 | $1,862,699 | $ 30.80 |
| Crude oil | thousand bbl | 29,200 | 849,137 | 29.08 | 28,873 | 830,400 | 28.76 | 30,226 | 813,093 | 26.90 |
| Natural gas | million cu ft | 1,030 | 2,926 | 2.84 | 1,530 | 4,254 | 2.78 | 1,324 | 3,668 | 2.77 |
| Natural gas liquids | million bbl | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| TOTAL[b] | | | $2,566,495 | | | $2,786,148 | | | $2,679,460 | |
| INDUSTRIAL AND CONSTRUCTION MATERIALS | | | | | | | | | | |
| Clay - common | thousand tons | 717 | 3,360 | 4.68 | 253 | 940 | 3.71 | 265 | 876 | 3.30 |
| Absorbent | thousand tons | W | W | 51.12 | W | W | W | W | W | W |
| Fluorspar (shipments) | tons | W | W | 171.53 | W | W | W | W | W | W |
| Sand and gravel | | | | | | | | | | |
| Common | thousand tons | 21,100 | 58,400 | 2.77 | 25,969 | 72,477 | 2.79 | 26,600 | 77,000 | NA |
| Industrial | thousand tons | 4,060 | 42,871 | 10.94 | 4,100 | 52,197 | 12.73 | 4,056 | 56,915 | NA |
| Stone (limestone & dolomite) | | | | | | | | | | |
| Crushed and broken | thousand tons | 42,761 | 166,860 | 3.90 | 48,500[d] | 191,600[d] | 3.95 | 41,044 | 164,117 | 4.00 |
| Dimension | tons | 2,000 | 98 | 49.00 | -- | -- | -- | 2 | 107 | 61.17 |
| Tripoli | thousand tons | W | W | W | W | W | W | W | W | W |
| TOTAL[b] | | | $ 271,562 | | | $ 317,214 | | | $ 299,015 | |
| METALS | | | | | | | | | | |
| Lead | metric tons | W | W | W | W | W | W | W | W | W |
| Zinc | metric tons | W | W | W | W | W | W | W | W | W |
| Silver | troy oz | W | W | W | W | W | W | W | W | W |
| Copper | metric tons | -- | -- | -- | -- | -- | -- | W | W | W |
| TOTAL[b] | | | W | | | W | | | W | |
| OTHERS | | | | | | | | | | |
| Peat | thousand tons | W | W | W | W | W | W | W | W | W |
| Gem stones | | NA | 15 | - | NA | 15 | - | NA | 15 | NA |
| Barite, primary | thousand tons | W | W | W | W | W | W | W | W | W |
| TOTAL[b] | | | $ 15 | | | $ 15 | | | $ 15 | |
| Values that cannot be disclosed (W) | | | 27,471 | | | 34,652 | | | 33,589 | |
| Total value of mineral materials mined[b] | | | $2,865,543 | | | $3,138,029 | | | $3,012,079 | |

TABLE 1. continued

| Minerals | Unit | 1983 Quantity | 1983 Value ($1000) | 1983 Average unit value ($) | 1984 Quantity | 1984 Value ($1000) | 1984 Average unit value ($) | 1985 Quantity | 1985 Value ($1000) | 1985 Average unit value ($) |
|---|---|---|---|---|---|---|---|---|---|---|
| PROCESSED | | | | | | | | | | |
| Natural gas liquids | thousand bbl | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Perlite, expanded | short tons | W | W | 166.31 | W | W | W | W | W | W |
| Barite, ground | short tons | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Gypsum, calcined | short tons | W | W | W | W | W | W | W | W | W |
| Vermiculite, exfoliated | short tons | W | W | W | W | W | W | W | W | W |
| Iron oxide pigments | short tons | 32,619 | 33,328 | NA | 29,475 | 24,920 | NA | 28,573 | 24,171 | NA |
| Bismuth | | NA | NA | NA | e | e | | -- | -- | -- |
| Primary slab zinc | tons | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Secondary slab zinc | | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Colubmium & tantalum | | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Iodine, crude | lbs | W | NA | NA | NA | NA | W | NA | NA | NA |
| Pig iron | thousand tons | 2,754 | 512,072 | 185.91 | 3,042 | 520,961 | 171.23 | 2,921 | 480,795 | 164.58 |
| Sulfur | thousand tons | W | W | W | 181 | 15,838 | 87.37 | 194 | 19,895 | 102.61 |
| Slag (iron & steel) | thousand tons | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| TOTAL[b] | | | $ 545,400 | | | $ 561,719 | | | $ 524,861 | |
| Values that cannot be disclosed (W) | | | 32,473 | | | 15,890 | | | 15,529 | |
| Total value of mineral materials processed[b] | | | $ 577,873 | | | $ 577,609 | | | $ 540,390 | |
| MANUFACTURED INTO PRODUCTS | | | | | | | | | | |
| Cement (shipments) | | | | | | | | | | |
| Portland | thousand tons | 1,857 | 74,975 | 40.37 | 1,997 | 82,622 | | 2,101 | 86,211 | 41.04 |
| Masonry | thousand tons | W | W | W | W | W | W | W | W | W |
| Clay products, estimated | | - | 60,996 | - | - | 60,454 | - | | 71,372 | |
| Lime | thousand tons | W | W | W | W | W | W | W | W | W |
| Coke | thousand tons | 1,155 | NA | NA | 1,643 | NA | NA | W | NA | NA |
| Glass | thousand tons | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| TOTAL[a] | | | $ 135,971 | | | $ 143,076 | | | $ 157,583 | |
| Values that cannot be disclosed (W) | | | 37,500 | | | 44,872 | | | 47,715 | |
| Total value of mineral products manufactured[b] | | | $ 173,471 | | | $ 187,948 | | | $ 205,298 | |
| STATE TOTAL[b] | | | $3,616,887 | | | $3,903,586 | | | $3,757,767 | |

[a]Sources: U.S. Bureau of Mines, Illinois Department of Mines and Minerals, Illinois State Geological Survey.

[b]Data may not add up to totals shown because of independent rounding.

[c]Refractory clay is included with common clay to avoid disclosing confidential data from individual companies.

[d]Estimate by U.S.B.M., no survey for 1984.

[e]Only one plant in Illinois - closed in 1984.

NA = not available.

W = withheld to avoid disclosing confidential data from individual companies.

TABLE 2. Illinois mineral production compared to U.S. mineral production, 1984-85[a]

| Commodity | Unit | Illinois | | United States | | Illinois % of U.S. production | |
|---|---|---|---|---|---|---|---|
| | | Quantity | Value ($1,000) | Quantity | Value ($1,000) | Quantity | Value |
| 1984 | | | | | | | |
| Fluorspar shipments | thousand tons | W | W | 72 | W | -- | -- |
| Peat, commercial sales | " | W | W | 720 | 19,080 | -- | -- |
| Coal | " | 65,289 | 1,951,494 | 890,644 | 27,280,426 | 7.33 | 7.15 |
| Pig iron | " | 3,042 | 520,961 | 51,961 | 11,067,693 | 5.85 | 4.71 |
| Stone (includes dimension stone) | " | 48,500 | 191,600 | 957,157 | 3,519,080 | 5.07 | 5.44 |
| Sand and gravel | " | 30,069 | 124,674 | 773,900 | 2,244,310 | 3.89 | 5.56 |
| Coke | " | 1,643 | NA | 30,561 | 3,196,069 | 5.38 | -- |
| Clays[b] | " | 253 | 940 | 42,465 | 919,111 | 0.60 | 0.10 |
| Zinc | " | W | W | 253 | 270,833 | -- | -- |
| Cement shipments (portland) | " | 1,997 | 82,622 | 77,881 | 4,019,948 | 2.56 | 2.06 |
| Lead | " | W | W | 322 | NA | -- | -- |
| Crude oil | thousand bbls | 28,873 | 830,400 | 3,249,696 | 84,102,132 | 0.89 | |
| Natural gas liquids | " | NA | NA | 721,000 | NA | -- | -- |
| Natural gas | million cu ft | 1,530 | 4,254 | 18,229,638 | 48,404,611 | 0.01 | 0.01 |
| Lime | thousand tons | W | W | 15,922 | 811,226 | -- | -- |
| 1985 | | | | | | | |
| Fluorspar shipments | thousand tons | W | W | 66,000 | 11,418 | -- | -- |
| Peat, commercial sales | " | W | W | 839[c] | 208160[c] | -- | -- |
| Coal | " | 60,477 | 1,862,699 | 878,540 | 22,139,208 | 6.88 | 8.41 |
| Pig iron | " | 2,921 | 480,795 | 50,000 | 10,650,000 | 5.84 | 4.51 |
| Stone (includes dimension stone) | " | 41,046 | 164,224 | 1,001,121 | 4,118,572 | 4.10 | 3.99 |
| Sand and gravel | " | 30,656 | 133,915 | 800,100 | 2,440,305 | 3.83 | 5.49 |
| Coke | " | | | | | | |
| Clays[b] | " | 265 | 876 | 44,974 | | 0.59 | |
| Zinc | " | W | W | 227 | 202,012 | -- | -- |
| Cement shipments (portland) | " | 2,101 | 86,211 | 83,032 | 4,286,399 | 2.53 | 2.01 |
| Lead | " | W | W | 424 | 178,228 | -- | -- |
| Crude oil | thousand bbls | 30,226 | 813,093 | | | | |
| Natural gas liquids | " | NA.. | NA | | | | |
| Natural gas | million cu.ft. | 1,324 | 3,668 | 17,197,999 | 43,182,598 | 0.01 | 0.01 |
| Lime | thousand tons | W | W | 15,690 | 792,345 | -- | -- |

[a]Sources: U.S. Bureau of Mines, Illinois State Geological Survey, Illinois Oepartment of Mines and Minerals and American Petroleum Institute.

[b]Excluding fuller's earth.

[c]Estimated.

NA = not available.

W = withheld to avoid disclosing confidential data from individual companies.

TABLE 3. Value of minerals extracted, processed, and manufactured in Illinois counties, 1985[a]

| County | Approximate[b] rank based on total value | Minerals extracted in order of value | Value ($1000) | Mineral processed, in order of value | Value ($1000) | Mineral products, in order of value | Value ($1000) | Total value ($1000) |
|---|---|---|---|---|---|---|---|---|
| Adams | 40 | Stone, crude oil, sand & gravel | 15,658 | Iron oxide pigments | W | -- | -- | W |
| Alexander | 47 | Tripoli, sand & gravel | W | -- | -- | -- | -- | W |
| Bond | 59 | Crude oil, sand & gravel, clay | 2,250 | -- | -- | -- | -- | 2,250 |
| Boone | 88 | Stone, sand & gravel | 305 | -- | -- | -- | -- | 305 |
| Brown | 60 | Crude oil | 2,595 | -- | -- | -- | -- | 2,595 |
| Bureau | 79 | Sand & gravel | -- | -- | -- | Clay products | W | W |
| Calhoun | 99 | -- | -- | -- | -- | -- | -- | -- |
| Carroll | 91 | Stone | 493 | -- | -- | -- | -- | 493 |
| Cass | 100 | -- | -- | -- | -- | -- | -- | -- |
| Champaign | 67 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Christian | 11 | Coal, crude oil, stone | W | -- | -- | -- | -- | W |
| Clark | 48 | Crude oil[c], stone | W | -- | -- | -- | -- | W |
| Clay | 22 | Crude oil, stone | W | -- | -- | -- | -- | W |
| Clinton | 9 | Coal, crude oil, sand & gravel, | W | -- | -- | -- | -- | W |
| Coles | 44 | Crude oil, stone, natural gas, sand & gravel | W | -- | -- | -- | -- | W |
| Cook | 10 | Stone, sand & gravel peat | W | Expanded perlite, slag, pig iron[d] secondary slab zinc[e] | W | Lime, clay products, coke[e] | W | 111,040 |
| Crawford | 20 | Crude oil, sand & gravel natural gas | W | Sulfur | W | -- | -- | W |
| Cumberland | 63 | Crude oil[c], sand & gravel | -- | -- | -- | -- | -- | -- |
| De Kalb | 62 | Stone, sand & gravel | W | Exfoliated vermiculite, expanded perlite | W | -- | -- | W |
| De Witt | 72 | Crude oil, sand & gravel | 1,519 | -- | -- | -- | -- | 1,519 |
| Douglas | 28 | Coal, stone, crude oil | W | Natural gas liquids[e] | W | -- | -- | W |
| Du Page | 34 | Sand & gravel, stone | W | Exfoliated vermiculite | W | Clay products, glass[e] | -- | W |
| Edgar | 70 | Crude oil, natural gas | 1,786 | -- | -- | -- | -- | 1,786 |
| Edwards | 30 | Crude oil | 29,085 | -- | -- | -- | -- | 29,085 |
| Effingham | 46 | Crude oil, sand, natural gas | 9,015 | -- | -- | -- | -- | 9,015 |
| Fayette | 23 | Crude oil, stone, sand & gravel, natural gas | W | -- | W | -- | -- | W |
| Ford | 89 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Franklin | 2 | Coal, crude oil | 259,631 | -- | -- | -- | -- | 259,631 |
| Fulton | 38 | Coal, sand & gravel | 17,966 | -- | -- | -- | -- | 17,966 |
| Gallatin | 19 | Coal, crude oil, sand & gravel, natural gas | 61,586 | -- | -- | -- | -- | 61,586 |
| Greene | 85 | Stone | W | -- | -- | -- | -- | W |
| Grundy | 69 | Sand | -- | -- | -- | -- | W | -- |
| Hamilton | 24 | Coal, crude oil | 47,574 | -- | -- | -- | -- | 47,574 |
| Hancock | 86 | Stone, crude oil | 565 | -- | -- | -- | -- | 565 |
| Hardin | 37 | Fluorspar, stone, zinc, primary barite, lead, copper, silver, gemstones, germanium[e] | W | Ground & crushed barite[e] | -- | -- | -- | W |
| Henderson | 83 | Stone, sand & gravel | W | -- | -- | -- | -- | W |
| Henry | 84 | Stone, sand & gravel | W | -- | -- | -- | -- | W |
| Iroquois | 97 | Stone | W | -- | -- | -- | -- | W |
| Jackson | 15 | Coal, stone, crude oil, sand & gravel | W | -- | -- | -- | -- | W |
| Jasper | 26 | Crude oil | 37,049 | -- | -- | -- | -- | 37,049 |
| Jefferson | 3 | Coal, crude oil | 147,283 | -- | -- | -- | -- | 147,283 |
| Jersey | 90 | Stone | W | -- | -- | -- | -- | W |
| Jo Daviess | 73 | Stone, sand & gravel | 968 | -- | -- | -- | -- | 968 |
| Johnson | 64 | Stone | W | -- | -- | -- | -- | W |
| Kane | 31 | Sand & gravel, stone[f] | 3,912 | Iron oxide pigments | W | Clay products | W | W |
| Kankakee | 50 | Stone, sand & gravel, clay | W | -- | -- | -- | -- | W |
| Kendall | 80 | Stone, sand & gravel | W | -- | -- | -- | -- | W |
| Knox | 42 | Sand & gravel | -- | -- | -- | Clay products | W | W |
| Lake | 41 | Sand & gravel, peat | W | Calcined gypsum, crude iodine[e], columbium[e] | W | Clay products | W | W |
| La Salle | 13 | Sand & gravel, stone clay | W | -- | -- | Portland cement, clay products, glass[e] | W | 91,528 |
| Lawrence | 17 | Crude oil, sand & gravel | 73,826 | Sulfur | W | -- | -- | 73,837 |
| Lee | 35 | Stone | 4,735 | -- | -- | Portland cement, masonry cement | W | W |
| Livingston | 51 | Stone, clay, sand & gravel | W | -- | -- | -- | -- | W |
| Logan | 33 | Coal, stone, sand & gravel | W | -- | -- | Glass[e] | -- | W |
| McDonough | 32 | Coal, stone, crude oil, | W | -- | -- | Clay products | W | W |
| McHenry | 43 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| McLean | 57 | Sand & gravel | -- | -- | -- | Fiberglass[e] | -- | -- |
| Macon | 58 | Crude oil, sand & gravel | 1,885 | -- | -- | Glass[e] | -- | 1,885 |
| Macoupin | 7 | Coal, crude oil | 110,223 | Exfoliated vermiculite | W | -- | -- | 110,223 |

TABLE 3. continued

| County | Approximate[b] rank based on total value | Minerals extracted in order of value | Value ($1000) | Mineral processed, in order of value | Value ($1000) | Mineral products, in order of value | Value ($1000) | Total value ($1000) |
|---|---|---|---|---|---|---|---|---|
| Madison | 39 | Crude oil, stone, sand & gravel, natural gas | W | Sulfur, slag[e], pig iron[d] | W | Clay products, coke[e], glass[e] | W | 15,613 |
| Marion | 18 | Crude oil | 73,917 | Secondary slab zinc[e] | -- | Glass[e] | -- | 73,917 |
| Marshall | 76 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Mason | 96 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Massac | 25 | Sand & gravel | -- | -- | -- | Portland cement | 39,017 | 39,017 |
| Menard | 78 | Stone | W | -- | -- | -- | -- | W |
| Mercer | 101 | -- | -- | -- | -- | -- | -- | -- |
| Monroe | 61 | Stone, crude oil | W | -- | -- | -- | -- | W |
| Montgomery | 68 | Stone, crude oil natural gas | W | -- | -- | Glass[e] | -- | W |
| Morgan | 93 | Sand & gravel, natural gas | 165 | -- | -- | -- | -- | 165 |
| Moultrie | 94 | Crude oil, sand & gravel | 102 | -- | -- | -- | -- | 102 |
| Ogle | 49 | Sand & gravel, stone | W | -- | -- | -- | -- | W |
| Peoria | 74 | Sand & gravel, stone | W | Slag[e] | -- | -- | -- | W |
| Perry | 1 | Coal, crude oil | 405,048 | -- | -- | -- | -- | 405,048 |
| Piatt | 87 | Crude oil | 26 | -- | -- | -- | -- | 26 |
| Pike | 55 | Stone, natural gas, sand & gravel | 2,444 | -- | -- | -- | -- | 2,444 |
| Pope | 98 | Fluorspar[g], lead[g] zinc[g], silver[g] | -- | -- | -- | -- | -- | g |
| Pulaski | 36 | Clay, stone, sand & gravel | W | -- | -- | Clay products | W | W |
| Putnam | 95 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Randolph | 5 | Coal, crude oil, stone, sand & gravel, natural gas | W | -- | -- | -- | -- | W |
| Richland | 27 | Crude oil | 31,976 | -- | -- | -- | -- | 31,976 |
| Rock Island | 54 | Stone, sand & gravel | W | -- | -- | -- | -- | W |
| St. Clair | 14 | Coal, stone, sand & gravel, crude oil, natural gas | W | Iron oxide pigments, ground barite[e], Primary slab zinc[e] | W | Glass[e] | -- | W |
| Saline | 4 | Coal, crude oil, natural gas | 142,851 | -- | -- | -- | -- | 142,851 |
| Sangamon | 65 | Crude oil, sand & gravel | 3,083 | Iron oxide pigments | W | -- | -- | W |
| Schuyler | 45 | Coal, crude oil, stone | W | -- | -- | -- | -- | W |
| Scott | 92 | Stone | W | -- | -- | -- | -- | W |
| Shelby | 71 | Crude oil, stone | 1,772 | -- | -- | -- | -- | 1,772 |
| Stark | 102 | -- | -- | -- | -- | -- | -- | -- |
| Stephenson | 77 | Stone, sand & gravel | 1,160 | -- | -- | -- | -- | 1,160 |
| Tazewell | 82 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Union | 52 | Stone | W | -- | -- | -- | -- | W |
| Vermilion | 53 | Stone, sand & gravel | W | -- | -- | -- | -- | W |
| Wabash | 8 | Coal, crude oil, sand & gravel | 109,528 | -- | -- | -- | -- | 109,528 |
| Warren | 81 | Stone | W | -- | -- | -- | -- | W |
| Washington | 21 | Coal, crude oil, stone | 57,956 | -- | -- | -- | -- | 57,956 |
| Wayne | 16 | Crude oil, natural gas | 77,425 | -- | -- | -- | -- | 77,425 |
| White | 12 | Crude oil, coal, sand & gravel | 93,047 | -- | -- | -- | -- | 93,047 |
| Whiteside | 66 | Peat, stone, sand & gravel | W | -- | -- | -- | -- | W |
| Will | 29 | Stone, sand & gravel | 12,644 | Sulfur, expanded perlite | W | Glass[e] | -- | W |
| Williamson | 6 | Coal, crude oil, natural gas | 116,972 | -- | -- | -- | -- | 116,972 |
| Winnebago | 75 | Stone, sand & gravel | 983 | -- | -- | -- | -- | 983 |
| Woodford | 56 | Sand & gravel | -- | -- | -- | -- | -- | -- |
| Undistributed | | Sand & gravel[i], crude oil, stone | W | Pig iron | 480,795 | -- | -- | W |
| Values that cannot be disclosed (W) | | | 824,042 | | 39,008 | | 166,281 | 1,488,802 |
| TOTAL[h] | | | 3,012,083[i] | | 540,390 | | 205,298 | 3,757,771[i] |

[a]Sources: U.S. Bureau of Mines, Illinois Department of Mines and Minerals, and Illinois State Geological Survey.

[b]Since some values are not available by county, ranking cannot be exact.

[c]Clark County crude oil value included with Cumberland County.

[d]Pig iron not available by county.

[e]Value unknown; not included in total.

[f]Including dimension stone.

[g]Pope County fluorspar and metal values included in Hardin County.

[h]Data may not add up to totals shown because figures have been rounded.

[i]Sand and gravel production not included in each county's value; the 1984 data were used to rank each county.

W = Withheld to avoid disclosing confidential data from individual companies.

TABLE 4. Employment and wages in the Illinois mineral industry, 1984-85[a]

| | 1984 | | | | 1985 | | | |
|---|---|---|---|---|---|---|---|---|
| | No. of employees (1000) | Average weekly earnings ($) | Average hours worked/week | Average hourly earnings ($) | No. of employees (1000) | Average weekly earnings ($) | Average hours worked/week | Average hourly earnings ($) |
| Mining | 24.9 | 610.65 | 43.8 | 13.93 | 28.6 | 589.76 | 41.3 | 14.27 |
| Bituminous coal | 14.2 | 692.77 | 43.4 | 15.94 | 16.7 | 645.57 | 40.2 | 16.05 |
| Oil and gas extraction | 5.8 | 491.67 | 41.6 | 11.82 | 6.7 | 491.75 | 40.9 | 12.05 |
| Other | 4.8 | 524.18 | 48.4 | 10.82 | 5.2 | 503.42 | 46.3 | 10.88 |
| Processing | 93.2 | 524.47 | 42.0 | 12.47 | 89.2 | 533.20 | 41.1 | 14.75 |
| Blast furnaces and basic steel | 24.9 | 540.15 | 41.7 | 12.95 | 24.5 | 555.54 | 41.4 | 13.42 |
| Primary metal industries | 61.1 | 501.61 | 41.7 | 12.03 | 57.9 | 519.97 | 41.3 | 12.58 |
| Petroleum refining | 7.2 | 662.38 | 45.8 | 14.47 | 6.8 | 565.35 | 37.7 | 15.00 |
| Manufacturing | 44.6 | 466.62 | 41.9 | 11.08 | 44.5 | 456.42 | 40.2 | 11.37 |
| Glass and glass products | 7.3 | 474.50 | 41.8 | 11.35 | 7.2 | 494.48 | 42.9 | 11.52 |
| Cement and clay products | 3.7 | 373.00 | 41.0 | 9.10 | 3.7 | 378.30 | 41.0 | 9.22 |
| Stone and other mineral products | 24.3 | 423.22 | 40.8 | 10.37 | 24.8 | 430.34 | 40.1 | 10.72 |
| Petroleum and coal products | 9.3 | 611.11 | 45.2 | 13.53 | 8.8 | 531.64 | 37.9 | 14.02 |

[a]Source: Illinois Department of Labor, Bureau of Employment Security.

TABLE 5. Minerals consumed in Illinois 1984-85[a]

| | | 1984 | | | 1985 | | |
|---|---|---|---|---|---|---|---|
| Commodity | Unit | U.S. | Illinois | Illinois % of U.S. consumption | U.S. | Illinois | Illinois % of U.S. consumption |
| Fuels | | | | | | | |
| Coal | million tons | 808.4 | 38.8 | 4.80 | 782.5 | 37.0 | 4.70 |
| Coke | million tons | 29.6 | NA | -- | 26.0 | NA | -- |
| Distillate fuel oils | million bbl | 1,041.2 | 36.4 | 3.60 | 1,047.0 | 32.2 | 3.08 |
| Gasoline | million bbl | 2,577.3 | 108.0 | 4.37 | 2,948.0 | 114.0 | 3.87 |
| Kerosene | million bbl | 42.0 | 0.6 | 1.67 | 42.0 | 1.1 | 2.62 |
| LPG and ethane | million bbl | 576.0 | 31.3 | 5.43 | 584.0 | 32.0 | 5.48 |
| Natural Gas | trillion cu ft | 18.0 | 1.0 | 5.56 | 17.3 | 1.0 | 5.78 |
| Residual fuel oil | million bbl | 501.2 | 11.8 | 1.50 | 439.0 | 7.3 | 1.66 |
| Metals | | | | | | | |
| Pig iron | million tons | 52.2 | 3.0 | 5.75 | 50.0 | 2.9 | 5.80 |
| Lead | thousand tons | 1,207.0 | 66.1 | 5.48 | 1,148.3 | 70.6 | 6.15 |
| Zinc (slab) | thousand tons | 843.3 | 122.0 | 14.47 | 759.1 | 102.8 | 13.54 |
| Construction materials | | | | | | | |
| Air-cooled slag | million tons | 15.3 | NA | -- | 14.5 | NA | -- |
| Asphalt and road oil | million bbl | 150.0 | 5.7 | 3.80 | 155.0 | 7.5 | 4.84 |
| Cement | million tons | 85.3 | 2.7 | 3.17 | 88.2 | 2.8 | 3.28 |
| Sand and gravel | million tons | 773.9 | 26.0 | 3.36 | 800.1 | 26.6 | 3.32 |
| Stone | million tons | 956.0 | 48.5 | 5.07 | 1,000.8 | 41.0 | 4.10 |
| Agricultural and chemical materials | | | | | | | |
| Feldspar | thousand tons | 690.0 | 38.0 | 5.51 | 700.0 | 37.0 | 5.29 |
| Fluorspar | thousand tons | 752.6 | 10.7 | 1.42 | 567.6 | 5.8 | 1.03 |
| Lime[b] | thousand tons | 15,956.0 | 664.0 | 4.16 | 15,713.0 | 655.0 | 4.17 |
| Salt | | | | | | | |
| Evaporated | thousand tons | 6,209.0 | 402.0 | 6.47 | 7,761.0 | 470.0 | 6.06 |
| Rock | thousand tons | 13,348.0 | 1,595.0 | 11.95 | 15,685.0 | 1,200.0 | 7.65 |

[a]Source: U.S. Bureau of Mines, U.S. Department of Energy.

[b]Excludes regenerated lime.

NA = not available.

TABLE 6. Fuels and energy consumed in Illinois, 1984-85[a]

| Fuel | Units | 1984 | 1985 | Change 1984-85 (%) | Trillion Btu[b] 1984[c,e] | 1985[d] |
|---|---|---|---|---|---|---|
| Coal | thousand tons | 38,799 | 37,022 | - 4.6 | 837.0 | 798.7 |
| Natural gas | million $ft^3$ | 1,032,779 | 962,039 | - 6.8 | 1,074.1 | 989.0 |
| Gasoline | thousand bbl | 107,967 | 115,158 | + 6.7 | 568.0 | 600.0 |
| Kerosene | thousand bbl | 642 | 1,148 | + 78.8 | 3.6 | 6.5 |
| Distillate fuel oil | thousand bbl | 36,415 | 32,189 | - 11.6 | 212.1 | 187.5 |
| Residual fuel oil | thousand bbl | 11,821 | 7,250 | - 38.7 | 74.3 | 45.6 |
| Liquid petroleum gases | thousand bbl | 31,310 | 32,012 | + 2.2 | 112.7 | 115.3 |
| Hydropower | million kWh | 141 | 136 | - 3.5 | 1.4 | 1.4 |
| Nuclear power | million kWh | 34,976 | 39,106 | + 11.8 | 379.2 | 422.7 |
| TOTAL | | | | - 2.9 | 3,262.4 | 3,166.7 |
| Illinois percentage of total U.S. energy consumption | | | | | 4.3 | 4.3 |
| Percentage of total energy consumed in Illinois | | | | | | |
| Coal | | | | | 25.66 | 25.22 |
| Natural gas | | | | | 32.92 | 31.23 |
| Oil products | | | | | 29.76 | 30.16 |
| Nuclear power | | | | | 11.62 | 13.35 |
| Hydropower | | | | | 0.04 | 0.04 |
| | | | | | 100.00 | 100.00 |

[a]Source: U. S. Department of Energy, Energy Information Administration.

[b]Fuel conversion factors: gasoline--5,253,000 Btu/bbl: kerosene--5,670 Btu/bbl; distillate fuel oil--5,825,000 Btu/bbl; residual fuel oil--6,287,000 Btu/bbl.

[c]1984 fuel conversion factors: coal--21,574,000 Btu/ton; natural gas--1,040 Btu/Mcf; LPG--3,599,000 Btu/bbl; nuclear power-- 10,800 Btu/kWh; hydropower--10,369 Btu/kWh.

[d]1985 fuel conversion factors: coal--21,574,000 Btu/ton; natural gas--1,028 Btu/Mcf; LPG--3,603,000 Btu/bbl; nuclear power-- 10,809 Btu/kWh; hydropower--10,339 Btu/kWh.

[e]Revised.

TABLE 7. Coal production in Illinois counties, 1984-85[a]

| County | 1984 Production | | | | | 1985 Production | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of mines | Underground (tons) | Surface (tons) | Total (tons) | Value[b] | No. of mines | Underground (tons) | Surface (tons) | Total (tons) | Value[b] |
| Christian[c] | 1 | 3,009,648 | -- | 3,009,648 | 89,958,379 | 1 | 2,516,238 | -- | 2,516,238 | 77,500,130 |
| Clinton | 1 | 3,275,349 | -- | 3,275,349 | 97,900,182 | 1 | 3,027,065 | -- | 3,027,065 | 93,233,602 |
| Douglas | 2 | 1,518,639 | -- | 1,518,639 | 45,392,120 | 2 | 979,891 | -- | 979,891 | 30,180,643 |
| Franklin | 4 | 7,788,141 | -- | 7,788,141 | 232,787,534 | 4 | 7,360,833 | -- | 7,360,833 | 226,713,656 |
| Fulton | 2 | -- | 1,066,545 | 1,066,545 | 31,879,030 | 1 | -- | 583,322 | 583,322 | 17,966,318 |
| Gallatin | 4 | 1,315,716 | 124,493 | 1,440,209 | 43,047,847 | 4 | 1,379,582 | 184,114 | 1,563,696 | 48,161,837 |
| Hamilton | 1 | 971,743 | -- | 971,743 | 29,045,398 | 1 | 1,043,032 | -- | 1,043,032 | 32,125,386 |
| Jackson | 1 | -- | 2,276,639 | 2,276,639 | 68,048,740 | 1 | -- | 2,542,724 | 2,542,724 | 78,315,899 |
| Jefferson | 2 | 3,767,447 | -- | 3,767,447 | 112,608,991 | 2 | 3,571,055 | -- | 3,571,055 | 109,988,494 |
| Logan | 1 | 828,897 | -- | 828,897 | 24,775,731 | 1 | 796,930 | -- | 796,930 | 24,545,444 |
| McDonough | 1 | -- | 487,367 | 487,367 | 14,567,400 | 1 | -- | 532,127 | 532,127 | 16,389,512 |
| Macoupin | 2 | 3,395,459 | -- | 3,395,459 | 101,490,270 | 3 | 3,568,538 | -- | 3,568,538 | 109,910,970 |
| Peoria | 1 | -- | 393,492 | 393,492 | 11,761,476 | - | -- | -- | -- | -- |
| Perry | 6 | 4,077 | 14,991,560 | 14,995,637 | 448,219,590 | 6 | 611,900 | 12,527,008 | 13,138,908 | 404,678,366 |
| Randolph | 3 | 3,359,127 | 877,300 | 4,236,427 | 126,626,803 | 4 | 3,595,846 | 506,345 | 4,102,191 | 126,347,483 |
| St. Clair | 2 | 1,605,856 | 640,865 | 2,246,721 | 67,154,491 | 2 | 1,318,020 | 518,000 | 1,836,020 | 56,549,416 |
| Saline | 9 | 3,609,225 | 1,582,086 | 5,191,311 | 155,168,286 | 10 | 2,937,641 | 1,457,491 | 4,395,1321 | 135,370,066 |
| Schuyler | - | -- | -- | -- | -- | 1 | -- | 296,802 | 296,802 | 9,141,502 |
| Vermilion | 1 | 156,779 | -- | 156,779 | 4,686,124 | - | -- | -- | -- | -- |
| Wabash | 1 | 2,544,916 | -- | 2,544,916 | 76,067,539 | 1 | 2665,930 | -- | 2,665,930 | 82,110,644 |
| Washington | 1 | 1,475,100 | -- | 1,475,100 | 44,090,739 | 1 | 1,492,400 | --- | 1,492,400 | 45,965,920 |
| White | 1 | 231,452 | -- | 231,452 | 6,918,100 | 1 | 690,901 | -- | 690,901 | 21,279,751 |
| Williamson[d] | 5 | 1,087,916 | 2,903,357 | 3,991,273 | 119,299,150 | 5 | 1,092,821 | 2,680,700 | 3,773,521 | 116,224,447 |
| TOTAL: | 52 | 39,945,487 | 25,343,704 | 65,289,191 | 1,951,493,919 | 52 | 38,648,623 | 21,828,633 | 60,477,256 | 1,862,699,485 |

[a]Production figures from Illinois Department of Mines and Minerals, Annual Coal, Oil and Gas Report, 1984 and 1985.

[b]Value calculated at an average of $29.89/ton for 1984 and $30.80/ton for 1985.

[c]One mine operated at junction of Christian, Montgomery, and Sangamon Counties; all production placed in the county where tipple is located.

[d]One mine operated at junction of Williamson and Saline Counties; all production placed in county where tipple is located.

Table 8. Coal production in Illinois counties, 1833-1985[a]

| County | Cumulative total surface production (tons) | Cumulative total production (tons) | County | Cumulative total surface production (tons) | Cumulative total production (tons) |
|---|---|---|---|---|---|
| Adams | 338,147 | 341,924 | Macoupin | -- | 313,356,045 |
| Bond | -- | 7,355,569 | McDonough | 1,827,640 | 4,436,121 |
| Brown | 41,761 | 74,068 | McLean | -- | 5,544,139 |
| Bureau | 11,094,808 | 53,823,055 | Madison | 37,843 | 164,295,772 |
| Calhoun | -- | 96,247 | Marion | -- | 39,247,722 |
| Cass | -- | 212,477 | Marshall | 4,779 | 12,516,141 |
| Christian | -- | 340,831,943 | Menard | -- | 13,462,005 |
| Clark | 4,482 | 4,482 | Mercer | 67,080 | 15,519,862 |
| Clay | 801 | 801 | Monroe | -- | 8,284 |
| Clinton | -- | 55,806,216 | Montgomery | -- | 141,824,660 |
| Coles | -- | 198,932 | Morgan | 13,564 | 190,787 |
| Crawford | 17,315 | 45,400 | Moultrie | -- | 2,032,236 |
| Douglas | -- | 39,026,398 | Peoria | 32,702,938 | 96,718,740 |
| Edgar | 207,242 | 915,698 | Perry | 313,883,781 | 412,310,268 |
| Effingham | -- | 796 | Pike | 2,224 | 5,081 |
| Franklin | -- | 648,690,763 | Pope | 34,704 | 36,266 |
| Fulton | 236,827,656 | 313,423,042 | Putnam | -- | 10,071,893 |
| Gallatin | 7,678,068 | 36,446,296 | Randolph | 95,104,501 | 195,898,412 |
| Greene | 71,090 | 693,191 | Richland | 35 | 154 |
| Grundy | 1,635,422 | 40,872,430 | Rock Island | -- | 3,846,169 |
| Hamilton | -- | 4,447,657 | St. Clair | 116,402,467 | 362,567,340 |
| Hancock | 459,329 | 771,281 | Saline | 56,398,920 | 275,181,137 |
| Hardin | -- | 40 | Sangamon | -- | 233,449,607 |
| Henry | 9,065,783 | 22,910,053 | Schuyler | 6,341,077 | 8,044,493 |
| Jackson | 50,458,186 | 118,131,098 | Scott | 3,790 | 612,476 |
| Jasper | -- | 23,739 | Shelby | 925 | 4,119,763 |
| Jefferson | 5,353,358 | 138,726,499 | Stark | 8,342,056 | 9,569,336 |
| Jersey | 2,290 | 120,350 | Tazewell | -- | 17,633,802 |
| Johnson | 72,781 | 314,325 | Vermilion | 30,651,670 | 165,878,433 |
| Kankakee | 18,284,342 | 19,192,105 | Wabash | 12,082 | 22,778,870 |
| Knox | 62,601,174 | 65,896,605 | Warren | 132 | 685,466 |
| La Salle | 2,345,878 | 65,547,638 | Washington | -- | 24,571,237 |
| Livingston | 139,091 | 10,111,437 | White | -- | 2,624,816 |
| Logan | -- | 16,788,565 | Will | 29,333,708 | 37,553,733 |
| Macon | -- | 11,000,468 | Williamson | 92,799,673 | 448,439,802 |
| | | | Woodford | -- | 7,810,160 |

| | | | |
|---|---|---|---|
| Total cumulative surface production, 1911-1985 | 1,190,664,593 | Estimated production, all counties, 1833-1881 | 73,386,123 |
| Total cumulative production, 1882-1985 | 5,065,682,816 | Total cumulative production, 1833-1985 | 5,139,068,939 |

[a]Source: Illinois State Department of Mines and Minerals, Annual Coal, Oil and Gas Reports. This table has been revised with production placed in county where tipple is located.

TABLE 9. Employment and production by method of mining in Illinois, 1974-85[a]

| | Underground | | | | Surface | | | |
|---|---|---|---|---|---|---|---|---|
| Year | No. of mines | No. of employees | Average production /mine (tons) | Average no. employees /mine | No. of mines | No. of employees | Average production /mine (tons) | Average no. employees /mine |
| 1974 | 23 | 8,718 | 1,352,353 | 379 | 32 | 3,749 | 842,767 | 117 |
| 1975 | 21 | 9,549 | 1,518,099 | 455 | 36 | 4,097 | 768,304 | 114 |
| 1976 | 23 | 10,396 | 1,343,987 | 452 | 39 | 4,392 | 698,063 | 113 |
| 1977 | 25 | 11,375 | 1,183,559 | 455 | 45 | 4,739 | 539,810 | 105 |
| 1978 | 28 | 12,620 | 888,914 | 451 | 43 | 5,241 | 554,757 | 122 |
| 1979 | 31 | 13,200 | 1,054,233 | 426 | 40 | 5,299 | 671,422 | 132 |
| 1980 | 31 | 13,219 | 1,128,022 | 426 | 35 | 5,065 | 787,821 | 145 |
| 1981 | 31 | 13,351 | 943,081 | 431 | 27 | 4,797 | 835,672 | 178 |
| 1982 | 32 | 10,554 | 1,115,121 | 330 | 28 | 4,397 | 919,439 | 157 |
| 1983 | 31 | 10,514 | 1,076,464 | 339 | 23 | 4,245 | 1,087,096 | 185 |
| 1984 | 31 | 10,857 | 1,288,564 | 350 | 21 | 3,946 | 1,206,843 | 188 |
| 1985 | 32 | 11,386 | 1,207,769 | 356 | 20 | 3,445 | 1,091,432 | 172 |

[a]Source: Illinois Department of Mines and Minerals, Annual Coal, Oil and Gas Report, 1974-1985.

TABLE 10. Coal production of Illinois companies, 1984-85[a]

| | | 1984 | | | | | 1985 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rank | Company | Number of mines: Underground | Number of mines: Surface | Production (tons) | Percentage of total production | No. of employees | Rank | Number of mines: Underground | Number of mines: Surface | Production (tons) | Percentage of total production | No. of employees |
| 1 | Peabody Coal | 5 | 3 | 11,554,650 | 17.70 | 2,714 | 1 | 5 | 3 | 10,117,493 | 16.73 | 2,667 |
| 2 | AMAX Coal | 1 | 2 | 7,918,024 | 12.13 | 1,625 | 2 | 1 | 2 | 7,448,676 | 12.32 | 1,502 |
| 3 | Consolidation Coal | 0 | 3 | 7,823,292 | 11.98 | 1,069 | 4 | 0 | 3 | 6,553,030 | 10.84 | 848 |
| 4 | Old Ben Coal | 4 | 0 | 7,788,141 | 11.93 | 1,751 | 3 | 4 | 0 | 7,360,833 | 12.17 | 1,695 |
| 5 | Monterey Coal | 2 | 0 | 5,679,400 | 8.70 | 1,143 | 7 | 2 | 0 | 4,976,902 | 8.23 | 1,252 |
| 6 | Arch of Illinois | 0 | 1 | 5,623,318 | 8.61 | 975 | 6 | 0 | 1 | 5,290,400 | 8.75 | 820 |
| 7 | Freeman United Coal Mining | 3 | 3 | 5,476,487 | 8.39 | 1,615 | 5 | 4 | 2 | 5,370,586 | 8.88 | 1,811 |
| 8 | Inland Steel | 2 | 0 | 3,309,595 | 5.07 | 1,120 | 8 | 2 | 0 | 3,322,847 | 5.49 | 1,093 |
| 9 | Zeigler Coal | 3 | 0 | 2,670,658 | 4.09 | 654 | 9 | 4 | 0 | 2,668,795 | 4.41 | 659 |
| 10 | Kenellis Energies | 1 | 0 | 1,764,802 | 2.70 | 351 | 12 | 1 | 0 | 910,379 | 1.51 | 353 |
| 11 | Sahara Coal | 3 | 1 | 1,432,557 | 2.19 | 542 | 10 | 4 | 0 | 1,283,392 | 2.12 | 574 |
| 12 | Midland Coal | 0 | 2 | 995,916 | 1.53 | 160 | 16 | 0 | 1 | 583,322 | 0.96 | 133 |
| 13 | Kerr-McGee Coal | 1 | 0 | 955,625 | 1.46 | 386 | 11 | 1 | 0 | 1,215,813 | 2.01 | 444 |
| 14 | Turris Coal | 1 | 0 | 828,897 | 1.27 | 326 | 13 | 1 | 0 | 796,930 | 1.32 | 317 |
| 15 | Equality Mining | 0 | 1 | 342,615 | 0.53 | 25 | 20 | 0 | 1 | 216,251 | 0.36 | 26 |
| 16 | Jader Coal | 1 | 1 | 302,180 | 0.46 | 41 | 19 | 1 | 1 | 220,729 | 0.36 | 33 |
| 17 | Williamson Coal | 0 | 1 | 275,023 | 0.42 | 49 | 18 | 0 | 1 | 242,978 | 0.40 | 49 |
| 18 | White County Coal | 1 | 0 | 231,452 | 0.35 | 142 | 14 | 1 | 0 | 690,901 | 1.14 | 218 |
| 19 | Illinois & W Virginia Coal | 1 | 0 | 156,779 | 0.24 | 0 | -- | -- | -- | -- | -- | -- |
| 20 | A & F Coal | 1 | 0 | 62,691 | 0.10 | 27 | 21 | 1 | 0 | 210,610 | 0.35 | 47 |
| 21 | Ace Diggin, Inc. | 0 | 1 | 52,200 | 0.08 | 30 | 22 | 0 | 1 | 45,581 | 0.08 | -- |
| 22 | J. J. Track Mining | 0 | 1 | 32,277 | 0.05 | 5 | 23 | 0 | 2 | 42,106 | 0.07 | 5 |
| 23 | E & B Coal | 0 | 1 | 8,535 | 0.01 | 0 | -- | -- | -- | -- | -- | -- |
| 24 | Carter Coal | 1 | 0 | 4,077 | 0.01 | 52 | 15 | 1 | 0 | 611,900 | 1.01 | 119 |
| 25 | Black Beauty | -- | -- | -- | -- | -- | 17 | 0 | 1 | 296,801 | 0.49 | 166 |
| | TOTAL | 31 | 21 | 65,289,191 | 100.0 | 14,803 | | 32 | 20 | 60,477,256 | 100.0 | 14,831 |

[a]Source: Illinois Department of Mines and Minerals, Annual Coal, Oil and Gas Report, 1984-85.

TABLE 11. Coal shipped from Illinois to other states, 1980-85[a]

| Consumers | Wisconsin | Minnesota and Michigan | Iowa | Missouri | Indiana | Kentucky | Georgia & Florida | Other states[b] | Exports and miscellaneous | Illinois | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (1,000 tons) | | | | | |
| Electric utilities | | | | | | | | | | | |
| 1980 | 2,805 | 1,313 | 1,644 | 12,649 | 7,616 | 222 | 3,970 | 3,786 | -- | 18,700 | 52,705 |
| 1981 | 2,198 | 839 | 1,240 | 11,933 | 5,249 | -- | 4,680 | 2,873 | -- | 14,930 | 43,941 |
| 1982 | 2,774 | 940 | 1,691 | 14,447 | 7,239 | 122 | 4,934 | 3,304 | -- | 17,260 | 52,710 |
| 1983 | 2,907 | 616 | 1,659 | 14,428 | 5,999 | 53 | 4,431 | 2,997 | -- | 16,812 | 49,903 |
| 1984 | 2,516 | 328 | 1,115 | 16,125 | 8,522 | 12 | 5,423 | 3,737 | -- | 18,418 | 56,197 |
| 1985 | 1,216 | 269 | 1,959 | 13,419 | 7,653 | 117 | 6,854 | 4,840 | -- | 16,541 | 52,899 |
| Coke and gas plants | | | | | | | | | | | |
| 1980 | -- | -- | -- | -- | 2,335 | -- | -- | -- | -- | 545 | 2,053 |
| 1981 | -- | -- | -- | 28 | 2,004 | -- | -- | 8 | -- | 317 | 2,356 |
| 1982 | -- | -- | -- | -- | 1,876 | -- | -- | 55 | -- | 317 | 2,248 |
| 1983 | -- | -- | -- | -- | 1,979 | -- | -- | 200 | -- | 276 | 2,455 |
| 1984 | -- | -- | -- | 3 | 2,222 | -- | -- | 1 | -- | 272 | 2,499 |
| 1985 | -- | -- | -- | -- | 1,292 | -- | -- | -- | -- | 715 | 2,006 |
| Retail dealers | | | | | | | | | | | |
| 1980 | -- | 5 | 12 | 12 | 1 | -- | -- | -- | 20 | 107 | 157 |
| 1981 | -- | -- | 1 | 23 | 4 | -- | -- | -- | 20 | 192 | 240 |
| 1982 | 13 | -- | 10 | 16 | 1 | -- | -- | -- | 24 | 236 | 300 |
| 1983 | 1 | 11 | -- | 30 | -- | -- | -- | -- | -- | 319 | 382 |
| 1984 | 1 | e | e | 30 | 19 | -- | -- | 9 | -- | 293 | 381 |
| 1985 | -- | -- | 14 | 89 | 1 | -- | -- | e | 24 | 186 | 309 |
| Others | | | | | | | | | | | |
| 1980 | 521 | 201 | 928 | 1,212 | 517 | 8 | 447 | 78 | 47 | 2,222 | 6,181 |
| 1981 | 625 | 188 | 667 | 1,054 | 495 | 34 | 84 | 173 | 64 | 1,559 | 4,943 |
| 1982 | 651 | 155 | 873 | 972 | 378 | 12 | -- | 59 | 36 | 1,363 | 4,499 |
| 1983 | 832 | 193 | 888 | 733 | 528 | -- | -- | 46 | 35 | 1,379 | 4,634 |
| 1984 | 721 | 169 | 543 | 940 | 290 | -- | -- | 46 | 6 | 1,852 | 4,603 |
| 1985 | 624 | 53 | 412 | 780 | 317 | 9 | -- | 50 | 40 | 1,553 | 3,838 |
| Totals[c] | | | | | | | | | | | |
| 1980 | 3,326 | 1,520 | 2,583 | 13,947 | 10,469 | 230 | 4,417 | 3,864 | 67 | 21,575 | 62,002 |
| 1981 | 2,823 | 1,027 | 1,908 | 13,038 | 7,752 | 34 | 4,764 | 3,054 | 1,022[d] | 16,998 | 52,419[d] |
| 1982 | 3,438 | 1,095 | 2,574 | 15,435 | 9,494 | 134 | 4,934 | 3,418 | 395[d] | 19,176 | 60,122[d] |
| 1983 | 3,739 | 820 | 2,547 | 15,192 | 8,506 | 53 | 4,431 | 3,243 | 329[d] | 18,786 | 57,717[d] |
| 1984 | 3,238 | 495 | 1,659 | 17,098 | 11,053 | 12 | 5,423 | 3,793 | 25[d] | 20,836 | 63,707[d] |
| 1985 | 1,872 | 322 | 2,385 | 14,288 | 9,262 | 125 | 6,854 | 4,889 | 117[d] | 18,995 | 59,171[d] |

[a]Sources: U.S. Bureau of Mines, Bituminous Coal and Lignite Distribution Quarterly, 1979.
U.S. Department of Energy, Coal Distribution, 1980-1985.

[b]Includes AL (1980-85), MS (1980-85), TN (1980-85), LA (1980-85), OH (1982 + 84[e]), PA (1979-84), NY (1981-82, 84[e]), KS (198I-85), TX (1981-83), and CA (1983-85), SD (1984[e]), AR (1985), WV (1985e).

[c]Totals may not add up because of independent rounding.

[d]Includes shipments to foreign countries, with no breakdown by consuming sector: 938,000 tons in 1981, 335,000 tons in 1982, and 294,000 tons in 1983, 19,000 tons in 1984, 44,000 tons foreign and 9,000 tons U.S. in 1985.

[e]Quantity is less than 500 tons.

TABLE 12. Coal shipped to Illinois from other states, 1980-85[a]

| Consumers | Illinois | Western Kentucky | Indiana | Ohio, eastern Pennsylvania,[b] and northern West Virginia | Southern West Virginia,[c] Virginia, and eastern Kentucky | Western Interior[d] states | Western states[e] | Montana[f] and Washington | Pennsylvania | Total coal consumed in Illinois |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (1,000 tons) | | | | | |
| Electric utilities | | | | | | | | | | |
| 1980 | 18,700 | 463 | 669 | -- | 733 | 26 | 11,997 | 3,920 | -- | 36,508 |
| 1981 | 14,930 | 839 | 965 | -- | 949 | 27 | 10,616 | 3,494 | -- | 31,820 |
| 1982 | 17,260 | 1,000 | 1,209 | -- | 802 | 41 | 9,109 | 2,697 | -- | 32,118 |
| 1983 | 16,812 | 738 | 1,467 | -- | 1,118 | 2 | 8,415 | 2,848 | 3 | 31,404 |
| 1984 | 18,418 | 1,594 | 1,581 | -- | 1,683 | -- | 7,422 | 1,995 | i | 32,693 |
| 1985 | 16,541 | 1,116 | 1,310 | -- | 1,272 | -- | 8,186 | 3,258 | i | 31,682 |
| Coke and gas plants | | | | | | | | | | |
| 1980 | 545 | -- | -- | 350 | 1,095 | 62 | -- | -- | -- | 2,052 |
| 1981 | 317 | -- | -- | 541 | 802 | 68 | -- | -- | -- | 1,728 |
| 1982 | 317 | -- | -- | 470 | 380 | 82 | -- | -- | 1 | 1,251 |
| 1983 | 276 | -- | -- | 581 | 639 | 112 | -- | -- | -- | 1,608 |
| 1984 | 272 | -- | -- | 779 | 1,003 | 35 | -- | -- | -- | 2,089 |
| 1985 | 715 | -- | 4 | 210 | 1,139 | -- | -- | -- | -- | 2,068 |
| Retail dealers | | | | | | | | | | |
| 1980 | 107 | 1 | 30 | -- | 15 | -- | -- | -- | 1 | 154 |
| 1981 | 192 | 2 | 9 | -- | 14 | -- | -- | -- | 4 | 222 |
| 1982 | 236 | 16 | 51 | -- | 7 | -- | -- | -- | 1 | 310 |
| 1983 | 319 | 22 | 52 | -- | 28 | -- | -- | -- | 3 | 423 |
| 1984 | 293 | 31 | 66 | -- | 28 | -- | h | -- | 1 | 420 |
| 1985 | 186 | 12 | 30 | -- | 8 | -- | -- | -- | 1 | 236 |
| Others | | | | | | | | | | |
| 1980 | 2,222 | 9 | 381 | 3 | 695 | 19 | -- | -- | 62 | 3,391 |
| 1981 | 1,559 | 11 | 655 | -- | 518 | 12 | -- | -- | 61 | 2,815 |
| 1982 | 1,363 | 49 | 655 | 22 | 533 | 5 | 17 | -- | 20 | 2,664 |
| 1983 | 1,379 | 77 | 787 | -- | 599 | -- | 29 | -- | 24 | 2,897 |
| 1984 | 1,852 | 443 | 482 | 150 | 593 | 16 | -- | -- | 61 | 3,596 |
| 1985 | 1,553 | 315 | 499 | 30 | 601 | -- | -- | -- | 36 | 3,035 |
| Total | | | | | | | | | | |
| 1980 | 21,575 | 472 | 1,080 | 353 | 2,539 | 107 | 11,997 | 3,920 | 63 | 42,106 |
| 1981 | 16,998 | 852 | 1,628 | 541 | 2,283 | 107 | 10,616 | 3,494 | 66 | 36,585 |
| 1982 | 19,176 | 1,065 | 1,914 | 493 | 1,721 | 128 | 9,125 | 2,697 | 22 | 36,342 |
| 1983 | 18,786 | 838 | 2,307 | 581 | 2,384 | 114 | 8,444 | 2,848 | 30 | 36,332 |
| 1984 | 20,836 | 2,067 | 2,129 | 928 | 3,307 | 51 | 7,422 | 1,995 | 63 | 38,799 |
| 1985 | 18,995 | 1,443 | 1,843 | 240 | 3,020 | -- | 8,186 | 3,258 | 37 | 37,022 |

[a]Sources: U.S. Department of Energy, Bituminous Coal and Lignite Distribution, Calendar Years 1978-79; U.S. Department of Energy, Coal Distribution, 1980-85.

[b]Includes Districts 1, 2, 3, 4, and 6 (MD, OH, eastern PA, northern WV). 1984 Districts 2,3, and 6.

[c]Includes Districts 7, 8 and 13 (AL, GA, eastern KY, NC, TN, VA, southern WV).

[d]Includes Districts 14 and 15 (AR, KS, MO, OK, TX).

[e]Includes Districts 16, 17, and 19-21 (CO, ID, ND, NM, SD, UT, WY).

[f]Includes Districts 22 and 23 (AK, MT, OR, WA).

[g]Estimated: Includes minor amounts of coal shipped to other consuming sectors.

[h]Quantity is less than 500 tons.

TABLE 13. Crude oil production in Illinois counties between 1888 and 1985; value for 1984 and 1985[a]

| County | 1888-1985 cumulative production (1000 bbl) | 1984 | | | 1985 | | |
|---|---|---|---|---|---|---|---|
| | | Production (1000 bbl) | % of total Illinois production | Value[d] ($1000) | Production (1000 bbl) | % of total Illinois production | Value[d] ($1000) |
| Adams | 270 | 12 | 0.0 | 353 | 3 | 0.0 | 68 |
| Bond | 7,857 | 80 | 0.3 | 2,308 | 75 | 0.2 | 2,025 |
| Brown | 1,752 | 266 | 0.9 | 7,636 | 96 | 0.3 | 2,595 |
| Champaign | 7 | -- | -- | -- | -- | -- | -- |
| Christian | 28,420 | 396 | 1.4 | 11,378 | 541 | 1.8 | 14,553 |
| Clark-Cumberland | 93,497 | 396 | 1.4 | 11,388 | 176 | 0.6 | 4,723 |
| Clay | 143,783 | 1,380 | 4.8 | 39,692 | 2,100 | 6.9 | 56,483 |
| Clinton | 87,222 | 340 | 1.2 | 9,788 | 324 | 1.1 | 8,703 |
| Coles | 24,346 | 134 | 0.5 | 3,855 | 258 | 0.9 | 6,928 |
| Crawford | 243,244 | 1,887 | 6.5 | 54,274 | 2,237 | 7.4 | 60,165 |
| De Witt | 3,594 | 64 | 0.2 | 1,849 | 56 | 0.2 | 1,519 |
| Douglas | 3,654 | 3 | 0.0 | 89 | 2 | 0.0 | 62 |
| Edgar | 4,359 | 57 | 0.2 | 1,648 | 62 | 0.2 | 1,668 |
| Edwards | 54,170 | 1,401 | 4.9 | 40,298 | 1,081 | 3.6 | 29,085 |
| Effingham | 18,757 | 281 | 1.0 | 8,086 | 334 | 1.1 | 8,978 |
| Fayette | 405,813 | 1,959 | 6.8 | 56,340 | 1,835 | 6.1 | 49,361 |
| Franklin | 77,532 | 1,116 | 3.9 | 32,109 | 1,224 | 4.0 | 32,917 |
| Gallatin | 54,400 | 549 | 1.9 | 15,794 | 498 | 1.7 | 13,404 |
| Hamilton | 136,468 | 494 | 1.7 | 14,209 | 574 | 1.9 | 15,449 |
| Jackson | 78 | 14 | 0.0 | 399 | 11 | 0.0 | 286 |
| Jasper | 57,621 | 727 | 2.5 | 20,898 | 1,377 | 4.6 | 37,049 |
| Jefferson | 90,038 | 969 | 3.4 | 27,875 | 1,386 | 4.6 | 37,295 |
| Lawrence | 411,807 | 2,785 | 9.6 | 80,100 | 2,744 | 9.1 | 73,826 |
| Macon | 2,254 | 151 | 0.5 | 4,331 | 70 | 0.2 | 1,885 |
| Macoupin | 338 | 9 | 0.0 | 258 | 12 | 0.0 | 312 |
| Madison | 18,305 | 128 | 0.4 | 3,688 | 130 | 0.4 | 3,487 |
| Marion | 427,607 | 2,239 | 7.8 | 64,402 | 2,748 | 9.1 | 73,917 |
| McDonough-Hancock[c] | 5,685 | 18 | 0.1 | 508 | 10 | 0.0 | 274 |
| Monroe | 66 | f | -- | 4 | 1 | 0.0 | 40 |
| Montgomery | 142 | 5 | 0.0 | 147 | 5 | 0.0 | 141 |
| Moultrie | 121 | 4 | 0.0 | 109 | 4 | 0.0 | 102 |
| Perry | 913 | 12 | 0.0 | 342 | 14 | 0.1 | 307 |
| Piatt | 7 | 2 | 0.0 | 54 | 1 | 0.0 | 26 |
| Randolph | 4,868 | 40 | 0.1 | 1,151 | 82 | 0.3 | 2,204 |
| Richland | 108,995 | 874 | 3.0 | 25,136 | 1,189 | 3.9 | 31,976 |
| St. Clair | 3,555 | 26 | 0.1 | 757 | 24 | 0.1 | 637 |
| Saline | 23,420 | 388 | 1.4 | 11,167 | 255 | 0.8 | 6,862 |
| Sangamon | 4,809 | 202 | 0.7 | 5,818 | 77 | 0.3 | 2,083 |
| Schuyler | 164 | 26 | 0.1 | 745 | 4 | 0.0 | 109 |
| Shelby | 2,010 | 44 | 0.2 | 1,257 | 64 | 0.2 | 2,714 |
| Wabash | 116,312 | 1,029 | 3.6 | 29,596 | 1,019 | 3.4 | 27,417 |
| Washington | 34,264 | 407 | 1.4 | 11,695 | 429 | 1.4 | 11,546 |
| Wayne | 268,681 | 3,073 | 10.6 | 88,390 | 2,871 | 9.5 | 77,233 |
| White | 307,419 | 3,322 | 11.5 | 95,555 | 2,668 | 8.8 | 71,767 |
| Williamson | 2,637 | 30 | 0.1 | 874 | 24 | 0.1 | 658 |
| Other[b] | 9,813 | 1,532 | 5.3 | 44,051 | 1,531 | 5.1 | 41,192 |
| Total[e] | 3,291,071 | 28,873 | 100.0 | 830,400 | 30,226 | 100.0 | 813,093 |

[a]Source: Illinois State Geological Survey Oil and Gas Section.

[b]Could not be assigned to individual field or county.

[c]No oil production reported for Hancock County in 1971-1978. There was 3,004 bbls in 1984 and 874 bbls in 1985.

[d]Value calculated at an estimated average price of $28.76 per barrel for 1984 and $26.90 per barrel for 1985.

[e]May not add up because of independent rounding.

[f]Monroe County produced a very small amount 149 barrels in 1984

TABLE 14. Crude oil production from major fields in Illinois 1984-85[a]

| Field | County | 1984 Production (1000 bbl) | 1984 % of Illinois total | 1985 Production (1000 bbl) | 1985 % of Illinois total | 1984-85 Change (%) |
|---|---|---|---|---|---|---|
| Southeastern Illinois | Wabash Lawrence Crawford Clark Cumberland Jasper | 5,200.0 | 18.0 | 5,643.4 | 18.7 | + 8.5 |
| Clay City Consolidated | Clay Wayne Richland Jasper | 3,217.9 | 11.1 | 4,838.4 | 16.0 | + 50.4 |
| Salem | Marion Jefferson | 1,981.6 | 6.9 | 2,747.1 | 9.1 | + 38.6 |
| Louden | Fayette Effingham | 1,787.3 | 6.2 | 1,831.9 | 6.1 | + 2.5 |
| New Harmony Consolidated | White Wabash Edwards | 1,461.6 | 5.1 | 805.9 | 2.7 | - 44.9 |
| Phillipstown Consolidated | White Edwards | 857.4 | 3.0 | 667.5 | 2.2 | - 22.1 |
| Sailor Springs Consolidated | Clay Jasper Effingham | 669.9 | 2.3 | 856.6 | 2.8 | + 27.9 |
| Albion Consolidated | Edwards White | 577.4 | 2.0 | 3,931.8 | 13.0 | +580.9 |
| Herald Consolidated | White Gallatin | 449.8 | 1.6 | 442.7 | 1.5 | - 1.6 |
| Dale Cnsolidated | Franklin Hamilton Saline | 349.7 | 1.2 | 346.8 | 1.1 | - 0.8 |
| Roland Consolidated | White Gallatin | 337.1 | 1.2 | 441.3 | 1.5 | + 30.9 |
| Goldengate Consolidated | Wayne White | 278.4 | 1.0 | 307.4 | 1.0 | + 10.4 |
| Benton | Franklin | 264.0 | 0.9 | 314.1 | 1.0 | + 19.0 |
| St. James | Fayette | 253.4 | 0.9 | -- | -- | -- |
| Buckhorn East | Brown | 237.8 | 0.8 | -- | -- | -- |
| Ewing East | Franklin | 206.0 | 0.7 | -- | -- | -- |
| Storms Consolidated | White | 200.4 | 0.7 | 211.2 | 0.7 | + 5.4 |
| Hunt City East | Jasper | -- | -- | 397.7 | 1.3 | -- |
| Mattoon | Coles | -- | -- | 232.8 | 0.8 | + 87.4 |
| Elk Prairie | Jefferson | -- | -- | 226.0 | 0.7 | +129.0 |
| Mill Shoals | White Hamilton Wayne | -- | -- | 214.4 | 0.7 | + 8.7 |
| | | 18,329.7 | 63.6 | 24,457.0 | 80.9 | + 27.2 |

[a]Source: Illinois State Geological Survey Oil and Gas Section. Major fields producing more than 200,000 barrels of oil per year.

TABLE 15. Petroleum products consumed in Illinois, 1982-85[a]

| | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|
| | (1,000 bbl) | | | |
| Motor gasoline[b] | 122,028 | 123,609 | 107,967 | 114,047 |
| Kerosene | 439 | 638 | 642 | 1,148 |
| Oistillate fuel oil | 32,521 | 35,503 | 36,415 | 32,189 |
| Residual fuel oil | 15,507 | 8,686 | 11,821 | 7,250 |
| Lubricants | 3,037 | 3,180 | 3,391 | 3,160 |
| Liquefied gases | 26,872 | 27,037 | 31,310 | 32,012 |
| Asphalt & road oil | 5,141 | 5,365 | 5,727 | 7,502 |
| Other[c] | 18,846 | 20,958 | 22,260 | 19,554 |
| Total | 224,398 | 229,274 | 219,530 | 216,862 |

[a]Source: State Energy Data Report, U. S. OOE/EIA-0214.

[b]Aviation and motor gasoline and jet fuel

[c]Includes natural gasoline, unfractionated stream, plant condensate, petrochemical feedstocks, special naphthas, non-electric utility sector use of petroleum coke, still gas, wax, unfinished oils, motor gasoline and aviation gasoline blending components, and miscellaneous products.

TABLE 16. Natural gas production in Illinois, 1978-85[a]

| Year | Withdrawals | | | Marketed |
|---|---|---|---|---|
| | Gas wells | Oil wells | Total | |
| | (million cu ft) | | | |
| 1978 | 958.5 | 200.5 | 1,159 | 1,159 |
| 1979 | 1,317.6 | 267.4 | 1,585 | 1,585 |
| 1980 | 1,333.6 | 240.4 | 1,574 | 1,574 |
| 1981 | 1,103.6 | 191.4 | 1,295 | 1,295 |
| 1982 | 993.5 | 168.5 | 1,162 | 1,162 |
| 1983 | 858.0 | 172.0 | 1,030 | 1,030 |
| 1984 | 1,399.6 | 130.4 | 1,530 | 1,530 |
| 1985 | 1,228.0 | 96.0 | 1,324 | 1,324 |

[a]Source: Illinois State Geological Survey Oil and Gas Section.

TABLE 17. Natural gas production from large fields in Illinois counties, 1983-85[a]

| Gas field | County | Production (million cu ft) 1983 | 1984 | 1985 | Change (%) 1983-84 | 1984-85 |
|---|---|---|---|---|---|---|
| Mattoon | Coles | 285.4 | 432.2 | 320.8 | + 51.5 | - 25.8 |
| Raleigh | Saline | 20.1 | 196.9 | 155.5 | +880.0 | - 21.0 |
| Keenville | Wayne | 134.0 | 94.0 | 69.4 | - 29.9 | - 26.2 |
| Grandview-Inclose | Edgar | 57.9 | 47.8 | 42.6 | - 17.4 | - 11.0 |
| St. Libory | St. Clair | 50.0 | 34.6 | 47.2 | - 30.8 | + 36.4 |
| Fishhook | Pike | 243.5 | 301.2 | 215.8 | + 23.7 | - 28.4 |
| Pittsburgh | Williamson | 52.0 | 85.0 | 32.6 | + 63.5 | - 61.6 |
| Griggsville | Pike | -- | 168.6 | 58.6 | -- | - 65.2 |
| Stolletown | Clinton | -- | -- | 165.2 | -- | -- |
| Other[b] | | 187.4 | 169.8 | 156.8 | - 9.4 | - 7.7 |
| TOTAL[c] | | 1,030.2 | 1,530.2 | 1,324.0 | + 48.5 | - 13.5 |

[a]Source: Illinois State Geological Survey. Fields producing 50 million cu ft or more.

[b]Eldorado East, Gallatin Co.; Harco South, Saline Co.; Stubblefield South, (1983) Bond Co.; Eldorado West, Saline Co.; Eldorado Consolidated, Saline Co.; New Athens, St. Clair Co.; Louden, Fayette and Effingham Cos.; Highland, Madison Co.; Albion Consolidated, (1983) Edwards Co.; Waggoner, Montgomery Co.; Eden, Randolph Co.; Johnson City East, ( 1983, 1984) Williamson Co.; Main Consolidated, (1985) Crawford Co.

[c]Totals may not add up because of rounding.

TABLE 18. Natural gas consumed in Illinois 1984-85[a]

| Consumers | 1984 Quantity (million cu ft) | 1984 % of total consumption | 1985 Quantity (million cu ft) | 1985 % of total consumption | 1984-85 change (%) |
|---|---|---|---|---|---|
| Residential | 479,572 | 46.4 | 446,567 | 46.4 | - 6.9 |
| Commercial | 232,170 | 22.5 | 213,528 | 22.2 | - 8.0 |
| Industrial | 299,474 | 29.0 | 280,638 | 29.2 | - 6.3 |
| Electric utilities | 5,963 | 0.6 | 5,881 | 0.6 | - 1.4 |
| Total delivered to consumers | 1,017,180 | 98.5 | 946,614 | 98.4 | - 6.9 |
| Other uses[b] | 15,599 | 1.5 | 15,425 | 1.6 | - 1.1 |
| Total consumption | 1,032,779 | 100.0 | 962,039 | 100.0 | - 6.8 |

[a]Source: U.S. Department of Energy.

[b]Includes lease and plant fuel, pipeline fuel, and extraction loss.

TABLE 19. Value of stone produced in Illinois counties, 1983 and 1985[a]

| County | 1983 | | | 1985 | | |
|---|---|---|---|---|---|---|
| | No. of quarries | Quantity (1000 tons) | Value ($1000) | No. of quarries | Quantity (1000 tons) | Value ($1000) |
| Adams | 6 | 880 | 14,503 | 6 | 837 | 15,590 |
| Boone | 3 | 103 | 385 | 3 | 80 | 305 |
| Calhoun | 1 | 53 | 218 | 0 | -- | -- |
| Carroll | 6 | 205 | 688 | 6 | 168 | 493 |
| Cass | 1 | W | W | 0 | -- | -- |
| Christian | 1 | W | W | 1 | W | W |
| Clark | 2 | W | W | 2 | W | W |
| Clay | 1 | 249 | 1,033 | 1 | W | W |
| Coles | 2 | W | W | 2 | W | W |
| Cook | 4 | W | W | 4 | W | W |
| DeKalb | 2 | W | W | 2 | W | W |
| Douglas | 1 | W | W | 1 | W | W |
| DuPage | 1 | 795 | 3,267 | 1 | 795 | 3,267 |
| Fayette | 1 | W | W | 1 | W | 964 |
| Greene | 3 | W | W | 3 | W | W |
| Hancock | 4 | 400 | 1,624 | 3 | 134 | 542 |
| Hardin | 4 | 2,429 | 7,129 | 27 | 4 | 2,198 |
| Henderson | 3 | W | W | 3 | W | W |
| Henry | 1 | 375 | 1,542 | 1 | W | W |
| Iroquois | 0 | -- | -- | 1 | W | W |
| Jackson | 1 | W | W | 1 | W | W |
| Jersey | 1 | 32 | 120 | 1 | 53 | 503 |
| Jo Daviess | 9 | 284 | 895 | 12 | 260 | 968 |
| Johnson | 2 | W | W | 2 | W | W |
| Kane | 3 | 725 | 2,837 | 4 | 961 | 3,805 |
| Kankakee | 3 | 1,200 | 4,789 | 3 | W | W |
| Kendall | 2 | W | W | 2 | W | W |
| La Salle | 4 | 2,130 | 7,305 | 4 | 1,749 | 5,375 |
| Lee | 8 | 776 | 2,464 | 9 | 1,505 | 4,735 |
| Livingston | 3 | W | W | 4 | W | W |
| Logan | 1 | W | W | 1 | W | W |
| McDonough | 2 | W | W | 2 | W | W |
| Madison | 3 | 780 | W | 2 | W | W |
| Menard | 1 | W | W | 1 | W | W |
| Mercer | 1 | 87 | 358 | 0 | -- | -- |
| Monroe | 2 | W | W | 2 | W | W |
| Montgomery | 4 | 631 | 2,604 | 3 | W | W |
| Ogle | 10 | 772 | 2,509 | 9 | 555 | 1,692 |
| Peoria | 1 | 77 | 331 | 1 | 2 | 14 |
| Pike | 5 | 737 | 2,509 | 4 | 501 | 1,684 |
| Pulaski | 1 | W | W | 1 | W | W |
| Randolph | 2 | W | W | 2 | W | W |
| Rock Island | 3 | W | W | 3 | W | W |
| St. Clair | 4 | 1,746 | 5,717 | 4 | 2,440 | 8,082 |
| Schuyler | 1 | 34 | 140 | 9 | 9 | W |
| Scott | 1 | W | W | 1 | W | W |
| Shelby | 1 | 27 | 112 | 1 | 14 | 58 |
| Stephenson | 12 | 395 | 956 | 9 | 407 | 1,160 |
| Union | 2 | W | W | 2 | W | W |
| Vermilion | 1 | W | W | 1 | W | W |
| Warren | 2 | W | W | 2 | W | W |
| Washington | 1 | 71 | 450 | 1 | 82 | 444 |
| Whiteside | 2 | W | W | 1 | W | W |
| Will | 7 | 3,669 | 13,025 | 6 | 3,543 | 12,644 |
| Winnebago | 16 | 315 | 971 | 13 | 287 | 983 |
| Various | 0 | -- | -- | 1 | W | W |
| Concealments | | 22,783 | 88,377 | | 24,466 | 93,994 |
| Totals[b] | 169 | 42,761 | 166,860 | 160 | 41,044 | 164,117 |

[a]Source: U.S. Bureau of Mines.

[b]Totals may not add to amounts shown because of independent rounding.

W = Withheld to avoid disclosing confidential data of individual companies, included in total.

TABLE 20. Illinois stone production by size of operation, 1983 and 1985[a]

| Size of operation (tons/year) | 1983 No. of quarries | 1983 Production[a] (tons) | 1983 Percent of total | 1985 No. of quarries | 1985 Production[b] (tons) | 1985 Percent of total |
|---|---|---|---|---|---|---|
| less than 25,000 | 39 | 423,400 | 1.0 | 48 | 427,268 | 1.0 |
| 25,000 to 49,999 | 22 | 780,283 | 1.8 | 18 | 705,547 | 1.7 |
| 50,000 to 74,999 | 11 | 702,887 | 1.6 | 12 | 774,107 | 1.9 |
| 75,000 to 99,999 | 10 | 882,882 | 2.1 | 11 | 975,497 | 2.4 |
| 100,000 to 199,999 | 33 | 4,949,805 | 11.6 | 19 | 2,921,218 | 7.1 |
| 200,000 to 299,999 | 17 | 4,085,284 | 9.6 | 17 | 3,997,539 | 9.7 |
| 300,000 to 399,999 | 11 | 3,834,844 | 9.0 | 9 | 3,065,707 | 7.5 |
| 400,000 to 499,999 | 7 | 3,199,549 | 7.5 | 5 | 2,413,876 | 5.9 |
| 500,000 to 599,999 | 6 | 3,428,213 | 8.0 | 6 | 3,229,593 | 7.9 |
| 600,000 to 699,999 | 3 | 1,859,194 | 4.3 | 2 | 1,264,595 | 3.1 |
| 700,000 to 799,999 | 2 | 1,560,760 | 3.6 | 6 | 4,527,242 | 11.0 |
| 800,000 to 899,999 | 2 | 1,691,378 | 4.0 | 0 | -- | -- |
| 900,000 and over | 6 | 15,362,772 | 35.9 | 7 | 16,741,671 | 40.8 |
| Total | 169 | 42,761,251 | 100.0 | 160 | 41,043,858 | 100.0 |

[a]Source: U.S. Bureau of Mines. Due to the canvassing procedure used for stone production, 1984 information will not be available.

[b]Excludes dimension stone.

TABLE 21. Use of crushed and broken stone produced in Illinois, 1983 and 1985[a]

| Use | 1983 Total (tons) | 1983 % of total | 1983 1981-83 change (%) | 1983 Average value/ton | 1985 Total (tons) | 1985 % of total | 1985 1983-85 change (%) | 1985 Average value/ton |
|---|---|---|---|---|---|---|---|---|
| Road base stone | 8,607,689 | 20.1 | - 37.0 | 3.35 | 8,511,467 | 20.7 | - 1.12 | 3.56 |
| Concrete aggregate | 3,714,604 | 8.7 | - 32.9 | 3.62 | 3,371,011 | 8.2 | - 9.25 | 4.38 |
| Surface treatment aggregate | 1,375,008 | 3.2 | - 52.4 | 3.58 | 1,119,571 | 2.7 | - 18.58 | 3.91 |
| Bituminous aggregate | 3,926,272 | 9.2 | - 10.0 | 3.94 | 3,102,705 | 7.6 | + 20.98 | 4.57 |
| Unspecified construction | 3,315,440 | 7.8 | - 28.5 | 3.09 | 2,276,438 | 5.6 | - 31.34 | 3.40 |
| Agricultural purposes[b] | 2,970,219 | 6.9 | - 34.3 | 4.35 | 3,164,972 | 7.7 | + 6.56 | 3.70 |
| Cement | 2,828,596 | 6.6 | + 2.5 | 2.75 | 2,577,261 | 6.3 | - 8.89 | 2.54 |
| Macadam aggregate | 3,286,107 | 7.7 | + 91.4 | 3.48 | 1,616,985 | 3.9 | - 50.79 | 3.60 |
| Flux stone | W | - | - | 4.30 | W | -- | - 19.27 | 4.02 |
| Riprap and jetty | 1,852,012 | 4.3 | +376.9 | 3.77 | 886,798 | 2.2 | - 52.12 | 3.91 |
| Railroad ballast | 584,108 | 1.4 | - 38.1 | 3.49 | 979,755 | 2.4 | + 67.74 | 4.01 |
| Other uses[c] | 10,301,196 | 24.1 | +274.9 | 5.16 | 13,436,895 | 32.7 | + 30.44 | 4.57 |
| Total | 42,761,251 | 100.0 | - 3.2 | 3.90 | 41,043,858 | 100.0 | - 4.02 | 4.00 |

[a]Source: U.S. Bureau of Mines. Due to the new reporting procedure implemented for stone, 1984 figures will not be available.

[b]Includes agricultural limestone and poultry grit.

[c]Includes stone for asphalt filler, chemicals, lime manufacture, mine dusting, filler, roofing aggregate, fill, waste material, whiting, and other uses.

TABLE 22. Portland cement manufactured in Illinois, 1984-85[a]

| | 1984 | 1985 | Change (%) 1984-85 |
|---|---|---|---|
| No. of active plants | 4 | 4 | -- |
| Production (tons) | 1,876,231 | 2,073,069 | - 10.5 |
| Shipments from mills | | | |
| Quantity (tons) | 1,996,658 | 2,100,724 | + 5.2 |
| Value | 82,621,878 | 86,210,707 | + 4.3 |
| Average value/ton | 41.38 | 41.04 | + 0.8 |
| Stocks at mills, Dec. 31 (tons) | 119,000 | 128,000 | - 7.6 |

[a]Source: U.S. Bureau of Mines.

TABLE 23. Mineral production data for 1985 compared to preliminary data for 1986[a]

| Minerals extracted | Unit | 1985 Quantity | 1985 Value (1000 $) | 1986 Quantity | 1986 Value (1000 $) | Percentage of change from 1985 to 1986 Quantity | Percentage of change from 1985 to 1986 Value |
|---|---|---|---|---|---|---|---|
| Fuels | | | | | | | |
| Coal | thousand tons | 60,477 | 1,862,699 | 62,611 | 1,847,025[b] | + 3.5 | - 0.8 |
| Crude oil | thousand bbl | 30,226 | 813,093 | 27,743[b] | 399,499[b] | - 8.2 | - 50.9 |
| Natural gas | thousand Mcf | 1,324 | 3,668 | 1,216[b] | 2,821[b] | - 8.2 | - 23.1 |
| Industrial and construction materials | | | | | | | |
| Stone | thousand tons | 41,046 | 164,224 | 44,002 | 178,507 | + 7.2 | + 8.7 |
| Sand and gravel | thousand tons | 30,656 | 133,915 | 32,800 | 137,500 | + 7.0 | + 2.7 |
| Clay[c] | thousand tons | 265 | 876 | 271 | 948 | + 2.3 | + 8.2 |
| Fluorspar | thousand tons | W | W | W | W | + 18.8 | + 13.2 |
| Tripoli | thousand tons | W | W | W | W | + 2.6 | + 3.2 |
| Metals | | | | | | | |
| Lead | tons | W | W | W | W | - 46.4 | - 37.7 |
| Zinc | tons | W | W | W | W | +110.6 | + 98.2 |
| Silver | troy ounce | W | W | W | W | -- | -- |
| Copper | tons | W | W | -- | -- | -- | -- |
| Other | | | | | | | |
| Peat | thousand tons | W | W | W | W | + 12.2 | + 14.2 |
| Gem stones | | NA | 15 | -- | 15 | -- | -- |
| Barite, primary | thousand tons | W | W | W | W | -- | -- |
| Values that cannot be disclosed (W) | | -- | 33,588 | | 37,089 | -- | + 10.4 |
| Total value of minerals extracted | | | $3,012,079 | | $2,603,389 | | - 13.6 |

[a]Source: U.S. Bureau of Mines and Illinois Department of Mines and Minerals

[b] Estimated by Illinois State Geological Survey

[c] Excludes fuller's earth; included with value of items indicated by symbol W.

W = Withheld to avoid disclosing individual company confidential data.

TABLE 24. Illinois coal shipped to consumers in the United States, 1984-86[a]

| Consumers | 1984 Jan-Sept | 1985 Jan-Sept | 1986 Jan-Sept | 1984-1985 change (%) | 1985-1986 change (%) |
|---|---|---|---|---|---|
| | (1000 tons) | | | | |
| Electric utilities | 43,771 | 39,959 | 42,773 | - 8.7 | +7.0 |
| Coke and gas plant | 2,036 | 1,488 | 1,573 | -26.9 | +5.7 |
| Retail dealers | 336 | 232 | 196 | -31.0 | -15.5 |
| Others | 3,844 | 2,758 | 2,604 | -28.3 | -5.6 |
| Transportation | -- | -- | -- | -- | -- |
| Used at mine | -- | 9 | 2 | -- | -77.8 |
| Mine stock (adjusted) | -- | -- | -- | -- | -- |
| Foreign | 18 | 63 | 202 | -250.0 | +220.6 |
| Total | 50,006 | 44,509 | 47,350 | -11.1 | +6.4 |

[a]Source: U.S. Oepartment of Energy, Coal Oistribution, January-September, 1984, 1985, and 1986.

TABLE 25. Coal shipments from Illinois to other states, 1984-86[a]

| Consumers | 1984 Jan-Sept | 1985 Jan-Sept | 1986 Jan-Sept | 1984-1985 change (%) | 1985-1986 change (%) |
|---|---|---|---|---|---|
| | (1000 tons) | | | | |
| Illinois | 16,621 | 14,183 | 14,652 | -14.7 | +3.3 |
| Missouri | 13,563 | 10,765 | 10,368 | -20.6 | -3.7 |
| Indiana | 8,656 | 7,004 | 8,352 | -19.1 | +19.2 |
| Wisconsin | 2,656 | 1,484 | 1,385 | -44.1 | -6.7 |
| Georgia | 2,383 | 2,315 | 1,555 | - 2.9 | -32.8 |
| Iowa | 1,571 | 1,952 | 1,844 | +24.3 | -5.5 |
| Alabama | 1,678 | 2,075 | 2,019 | +23.7 | -2.7 |
| Florida | 1,449 | 2,786 | 3,037 | +92.3 | +9.0 |
| Tennessee | 564 | 877 | 2,356 | +55.5 | +168.6 |
| Other states[b] | 847 | 1,005 | 1,580 | +18.7 | +57.2 |
| Exports | 18 | 63 | 202 | +250.0 | +220.6 |
| Total | 50,006 | 44,509 | 47,350 | -11.0 | +6.4 |

[a]Source: U.S. Department of Energy, Coal Oistribution, January-September, 1984, 1985, and 1986.

[b] Arkansas (1985, 1986), California, Kansas, Kentucky, Louisiana, Massachusetts (1986), Michigan, Minnesota, Mississippi, North Dakota (1986), New York (1984), Ohio, (1984, 1986), Pennsylvania (1984, 1986), South Carolina (1984), South Dakota (1984), West Virginia (1985)